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November, 1950

Clinical Significance of the Femoral Hernia

✦

Limitations of Cytological Diagnosis from the Pathological Standpoint

✦

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OFFICIAL PUBLICATION OF THE ILLINOIS STATE MEDICAL SOCIETY

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SEARLE
RESEARCH IN THE SERVICE OF MEDICINE

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The ILLINOIS Medical Journal

Official Journal of the Illinois State Medical Society

Harold M. Camp, EDITOR. Theodore R. Van Dellen, ASSOCIATE EDITOR.

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1951 MARCH OF DIMES

The National Foundation for Infantile Paralysis is now facing the most acute period in its history. All chapters in the State of Illinois are realizing that the situation is definitely critical.

The severe epidemics in Illinois, lasting from 1945 through the present year, have thrown a heavy burden on the 102 National Foundation Chapters. Last year's severe epidemic left many seriously paralyzed patients who are still receiving medical care, both in and out of hospitals. The financial burden on the various Illinois chapters has been the greatest in the history of the organization.

It has been necessary for most of the chapters in Illinois throughout the five year period, to lean rather heavily upon the epidemic aid funds from the national headquarters. Inasmuch as the only means of revenue these chapters have is the March of Dimes, it is hoped that the coming January, 1951 drive will provide sufficient funds to carry on the important three-fold program of medical care, research and education.

Allied with the Foundation in their work to protect residents of the state, various organizations have an opportunity to take the lead in the 1951 campaign.

Auxiliaries may assist the March of Dimes by supporting the drive in the various communities and by adopting the campaign as a public service project for January. Individual members of the auxiliaries throughout the state, may provide valuable help if there there is not an organized auxiliary in the county. Assistance may be given in the field of publicity, solicitation of funds, development of special events, and other critically needed services. Any organized assistance will be appreciated.

The people of Illinois should go "all out" in this campaign; all civic minded organizations should participate and contribute time and money to make the MARCH OF DIMES for 1951 a success.

COOPERATION WITH CIVILIAN DEFENSE ORGANIZATIONS

A note of warning appeared recently in the New York State Journal of Medicine* relative to the growing menace of Communism.

Dr. Vannevar Bush, one of this nation's leading atomic scientists and never one to speak at random, recently gave an ominous interview on enemy plans respecting the United States. A direct Soviet punch at this country in the near future, Dr. Bush thinks, is not likely. He believes the Kremlin will wait until it has a good-sized stockpile of atom bombs. Then, he

*N.Y. State J. of Medicine — Oct. 15, 1950. p. 2401.

forecasts, a mass atomic raid on the nation's key points, with Washington and New York as the main targets. The Soviet aim would be to strike us a rapid series of blows from which we could not recover in time to keep Russia from taking us over for keeps — what was left of us, that is.

Dr. Bush sees no sense in trying to negotiate a treaty with the Kremlin to outlaw the atom bomb. You might just as well, he says, conclude a treaty with a wolf. The Communist overlords of Russia are as cold, calculating, and ruthless as any group of alleged humans ever seen in the world, and the United States is tops on their hate list.

This statement from one of our leading atomic scientists is certain to set a lot of Americans thinking afresh of the advisability of a preventive war — meaning to get in the first punch at Russia with our own atom bombs and the planes that can deliver them. Of such planes we have quite a number. Indeed, the current issue of the *Pilot*, official publication of the Roman Catholic Archdiocese of Boston, discusses preventive wars, and says such a thing may be necessary and entirely moral if and when we fail in all possible efforts to talk the Kremlin out of its world-conquest ideas.

How this argument will finally wind up, nobody can foresee just now. But it would seem sensible for Americans everywhere, and particularly those in the big city areas, to get going on civilian defense programs in earnest.

This is just another reason why we must redouble our efforts to strengthen the homefront. Illinois already has made a strong bid to be a leader in civilian defense and many States are looking to us for guidance. The physician from Illinois should realize that he lives in a strategic area surrounded by such likely targets as Chicago, Rock Island, Moline, Peoria, St. Louis and Gary. Furthermore, airplanes do not follow the traditional sea-lanes and a glance at the globe will show that Illinois is in an excellent spot for an attack from the Soviet Union. It is no wonder that we, above all, should be on the alert. We must cooperate with civilian defense organizations because in case of an attack the problem of providing hospital care and medical services is one that will require the utilization of all medical manpower of the State.

AUREOMYCIN AND AMEBIASIS

The use of aureomycin in the treatment of amebic dysentery marks another milestone in the history of that disease. During the last few months many favorable reports have appeared in the literature to justify these conclusions.

In a series of 8 patients who were treated by Most[1], 7 have remained free from the parasite long after the drug was administered. He gave them 20 grams of aureomycin by mouth during a 10 day period. McVay[2] and his colleagues at the University of Tennessee College of Medicine treated 11 cases successfully with no recurrence of symptoms. Hughes[3] had a similar experience with 38 cases. He considered the effect of aureomycin as outstanding because it gives the most consistent symptomatic relief of all the amebacides and destroys the E. histolytica and most of the secondary invaders. In the series of cases reported by Hughes, practically all of the patients had repeated ineffective courses of carbarsone, diodoquin, emetine and chiniofon. In other words, they had had difficulty in eradicating the disease in this group of patients. A good response followed the administration of aureomycin in 27 of the 38 patients. Two weeks after the last dose of aureomycin they were symptom free and reported as having 5 negative stool examinations following saline purgation.

These reports are encouraging but we should not dispense entirely with conventional therapy. Discussion has it that best results are obtained when these products are used after aureomycin has been administered. This is worth considering because it is possible that by this method a higher percentage of cures will be obtained.

1. Most, Harry: Aureomycin and Amebiasis. Bull. N. Y. Acad. of Med. 25:717, November, 1949.
2. McVay, L. V., Laird, R. L., and Sprunt, D. H.: A Premininary Report of the Successful Treatment of Amebiasis with Aureomycin. Science, 109:590, June 10, 1949.
3. Hughes, J. D.: Treatment of Amebiasis with Aureomycin. JAMA, 142:1052, April 8, 1950.

MEDICAL PUBLIC RELATIONS CONFERENCE

Terming the county "the key area in which the main public relations job of the medical profession must be done," Dr. George F. Lull, Secretary and General Manager of the American Medical Association, has announced plans for the Third Annual Medical Public Relations Conference.

The 1950 Conference is set for December 3

and 4 in Cleveland — just prior to the Clinical Session of the American Medical Association. It will concentrate on county society programs aimed at increasing community goodwill toward the medical profession.

In attendance at the two-day session will be some 300 M.D. chairmen of state and county medical society public relations committees, society executive secretaries and public relations directors, officers of the American Medical Association Woman's Auxiliary and key representatives of allied health organizations.

The program schedule calls for four work sessions, two noon sessions and an evening session. All activities will be at the Hotel Statler.

The opening work session on Sunday, December 3, will take up the important "groundwork for a successful public relations program." On the docket will be discussions on organizing public relations committees, financing the program, techniques for finding out what public relations work is needed, program planning and ways to build support among society members.

Work sessions on Monday, December 4, will include a timely summary of "county societies and the legislative scene," a series of brief reports on specific worthwhile county public relations activities, and an open forum period during which conferees will divide into three groups to swap ideas with representatives from similar-sized communities.

Appearing at the "legislative" session will be Dr. Dwight H. Murray, A.M.A. Trustee and Chairman of the Committee on Legislation and Dr. Joseph S. Lawrence, Director of A.M.A. Washington Office.

The "activities with a purpose," session will show how county public relations projects have improved community feelings towards doctors. Among the projects to be discussed are "community-minded doctors," "a doctor for every family," "working with other professions," "the doctor and civilian defense," and "let the doctor speak."

On Monday afternoon three discussion groups will be formed to take up medical public relations problems in small communities, medium-sized communities and metropolitan areas. Each group will attempt to work out basic ideas that will be useful to other county societies embarking on public relations campaigns.

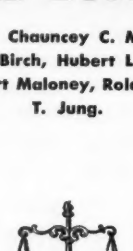
Sunday noon, Dr. John W. Cline, President-elect of the American Medical Association, will keynote the Conference with an address on "Serve Your Nation Through Better Public Relations." Speaker at the Monday noon session will be R. W. Mills, secretary or the Fond du Lac, Wisconsin, Association of Commerce. His topic is: "The American Way of Life."

Mid-point of the idea-packed Public Relations Conference will be the annual Conference Dinner Sunday evening. Sharing the speaker's platform will be A.M.A. President, Dr. Elmer L. Henderson, and a nationally prominent man outside the medical field. In addition, the program will feature cartoonist Marvin Bradley, one of the creators of the comic strip, "Rex Morgan, M.D."

As a supplement to the regular Conference sessions, two special visual aid demonstrations have been scheduled. One will be a screening of the new Louis de Rochemont film, "M.D. — the U.S. Doctor." The other will be a demonstration of a television package show being produced by the Bureau of Health Education for use by state and county societies.

MEDICAL ECONOMICS

The Medical Economics Committee. Chauncey C. Maher, Chairman, John R. Wolff, Co-Chairman, Edwin F. Hirsch, Carroll Birch, Hubert L. Allen, Frederick W. Slobe, Edward W. Cannady, Ford K. Hick, W. Robert Maloney, Roland R. Cross, Alfred P. Bay, Frederick T. Jung.



Application of Radio-Isotopes as a Career for Physicians

This editorial intends to explore the medical application of isotopes and to answer the question, "Will the use of isotopes develop a new type of specialist?"

The Atomic Energy Commission produces radioactive isotopes which it sells to individuals and institutions able to receive, handle and use these materials safely and wisely. The materials are rendered radioactive by exposure to the neutron flux in the nuclear reaction or "pile" at the National Laboratory at Oak Ridge. A few commercial companies process the radioactive substances into pharmaceutical form suitable for use in patients. This entire program is now in development under the able leadership of Dr. Paul Aebersold, a physicist, who heads the Isotope Division at Oak Ridge. It in no sense deals with any secret information or to the production or use of any weapon. The program deals with the technical and research applications of radio-isotopes.

The physicist, the physical chemist and the chemist are the leaders. These men are trained in nuclear physics which was unknown material when most of us were in college. They are skilled in precision, in measurements of radioactivity and in mathematics. In short they are specialists in the techniques of handling radioactive substances and in tracing these substances by various detecting devices. A few physicians have attempted to acquire a Ph. D. degree in one of these basic fields after finishing the M.D. degree. This effort, an exceedingly difficult task, appears unwise. Why should the physician compete—why not cooperate and work with the physicist and the physical chemist? The design of equipment, basic plans for its use, and review of technical procedures for errors, etc., should be in the hands of the physicist, with rare exceptions.

Isotopes are slowly acquiring uses in industry. Guages to measure thickness of metal or of paper on plastic are now available. There is no health hazard in the use of such devices. Anyhow the "health physics" group has a prior hold on control of radiation hazards where they do exist. "Health physics" deals with measurement of radiation exposure in laboratories and control of radio-active wastes. Routinely they compute and

check the shielding required for a process, the film badge and other dosimeter results, search for contamination, safeguard from spills, etc. They deal with design of laboratories and thus specialize in prevention of trouble.

The physiologist has already learned to use radioactivity as a tracer in minute quantities. A model of such procedure was the work with radioiodine by Hamilton and Soley in 1939* This material was made in a cyclotron. Although I^{131} was available in only minute quantities these men made observations which have been confirmed by everyone using I^{131} since then. In diagnosis of hyperthyroidism and cancer of the thyroid I^{131} has an assured place. P^{32} has a similar role for treatment in polycythemia. Radioactive gold and a few other radioactive elements have limited therapeutic possibilities. Sources of radiation resembling that from radium are now available such as radiocobalt. In placques and applicators this is now available for surface use. Internal dosage with isotopes for cancer seems of doubtful value.

In each application of an isotope it seems the user is already a specialist in his own field. He then learns enough about radioactivity to use it in his own field. Perhaps he will work with a physicist or a chemist. The Atomic Energy Commission operates an Institute for Nuclear Studies. With headquarters in Oak Ridge it cooperates with a number of southern universities in training graduate students. This agency operates a school in techniques. Short and long term courses may be had. A similar set up is available at the Argonne Laboratory.

From the foregoing it is apparent that a considerable number of physicians are going to know a great deal about the use of radioactive isotopes in research, in the study of physiology and in such therapeutic procedures that may be developed in the future, in addition to the use of phosphorus and iodine and the external applications of radioactive materials. However, none of this constitutes a new specialty. Each phase is the application of a new technique to an established specialty—physiology, internal medicine and radiology. In none of these fields will the physician be able fully to replace the physicist and of course he will not attempt to replace technicians — those valuable people who complete so much of the routine procedure. On the other hand the application of this tool may very well be the way in which a young internist or a physiologist acquires reputation for professional excellence. It will clearly be a tool that the older men find difficult to use so that a capable, aggressive younger man in any specialty where these things are used at all can perhaps turn them to his personal advantage very well. He will be able to do so, however, only by putting this skill on top of an already established skill. He will, therefore, never become a specialist in the use of radio isotopes. He will be a specialist who can use radioisotopes. *F. K. H.*

*Hamilton, J. G. and Soley, M. H., Studies in Iodine Metabolism by the Use of a Radioactive Isotope of Iodine. Am. J. Physiol. 127:557-1939.

OUR ROLE IN WAR

Doctors have never played a tactical part in war. Even in the recent conflict, in which casualties were heavy, the medical profession did vastly more to lighten the load of human suffering than to strengthen the nation's fighting arm. As one studies the outlook of the future, it may well be shown that doctors will carry on one of the most vital parts in the defense of the nation under circumstances that will be extraordinarily different from the past. Yet they tend to be so absorbed in the scientific interests of their profession that few give serious thought to the nature of the military crisis that threatens, and still fewer take the time to consider the need of plans for meeting the immense burden that may suddenly be thrown upon them. *Excerpt: Medical Aspects of Civilian Defense, Charles H. Bradford, M.D., Boston, The New England J. of M., Aug. 3, 1950.*

CORRESPONDENCE

ANNOUNCE COURSE FOR INDUSTRIAL MEDICINE

The Institute of Industrial Health of the University of Cincinnati will accept applications for a limited number of Fellowships which are being offered to qualified candidates who wish to pursue a graduate course of instruction which will qualify them for the practice of Industrial Medicine. Candidates who complete satisfactorily the course of study will be awarded the degree Doctor of Industrial Medicine. Any registered physician, who is a graduate of a Class A medical school and who has completed satisfactorily two years of residency (including internship) in a hospital accredited by the American Medical Association may apply for a Fellowship in the Institute of Industrial Health. The course of instruction consist of a two-year period of intense preliminary training in the basic phases of Industrial Medicine followed by one year of practical experience under adequate supervision in industry. During the first two years, the stipends for the Fellowships vary from $2,100 to $3,000. In the third year the candidate will be compensated for his service by the industry in which he is completing his training. Requests for additional information should be addressed to the Institute of Industrial Medicine, College of Medicine, Cincinnati 19, Ohio.

YOUR MENTAL HOSPITALS — EDUCATIONAL LEAVES FOR MEDICAL PERSONNEL

Realizing the importance of qualified and well-trained personnel and the shortages of professionally trained persons, the Illinois Department of Public Welfare has launched a program of educational leaves. Doctors entering the State Medical Service will be encouraged and stimulated to continue their education and training, and will be permitted to take specialized courses at training centers in Illinois and in the Medical Universities throughout the country.

Under this program, which will become effective in January, 1951, doctors who have served satisfactorily for three or more years may be authorized to take a six months period of training in an approved center. The physician or psychiatrist will receive his full salary and maintenance privileges during his leave. Training will not be restricted to psychiatry, but will include all phases of medicine and surgery, including tuberculosis, public health and specialized reasearch work.

This is part of a long time planning program. The State Hospitals will continue to make progress as long as their staffs continue to be stimulated by progressive physicians who, by training courses and seminars at the institutions, supple-

mented by periods of concentrated training at Specialty Centers, are advancing in knowledge in their respective fields of medicine.

Persons granted educational leaves benefit as individuals by securing professional training. There are multiple benefits over and above those gained by the individual. The patients gain by the improved quality of medical care and treatment. The physician, refreshed and stimulated by his period of training, transmits his enthusiasm to his fellow workers. The entire medical profession benefits from the improvement in the quality of its members.

As part of a staff development program, these periods of training will be beneficial in developing a high caliber of physicians and psychiatrists who may be promoted into higher positions and supervisory assignments. It is a part of the medical career service program of the Illinois State Mental Hospitals.

Educational leaves will gradually be expanded to include other professional groups, namely, the nurses, the occupational and recreational therapists, the social workers and the psychologists.

G. A. Wiltrakis, M.D.
Deputy Director

ORGANIZATION IN WOMAN'S AUXILIARY

Organization as Webster states it: to establish and systematize; to so arrange as to be ready for service. This is my duty this year as your President Elect of the Woman's Auxiliary to the Illinois State Medical Society. According to the By-Laws, the councilors are members of the organization committee. However, I believe each individual member should feel a part of the organization committee. This work must be continuous. As our National Chairman states: "The foundations of the Auxiliary — our traditions — ideals — objectives — are ours for the asking. We must continue building to benefit perpetually from the work that has been achieved."

Since our Convention in Springfield last May four counties have organized. This was accomplished through the marvelous cooperation of the Doctors.

There are many Counties in our State that do not have any representation in our Auxiliary. I hope before my year ends that much of this can be rectified. As least we should have members at large. The time has come when the Auxiliary has so proved its worth that the question is not are you an auxiliary member? but why are you not a member? I hope I am not assuming too much when I ask the Doctors who are officers in the Counties unorganized — when they read this — to help us establish an Auxiliary in that County. We must have the consent of the Medical Group before we can do any organizing. This is our first step.

I feel that now is the hour the profession needs us. We have an opportunity to aid them and ourselves too, in a real fight for freedom. We do not want to be found wanting. Our second step is to present and explain purposes and ideals of the Auxiliary. Our third step to call an organization committee, elect officers if possible. Our fourth step to be properly informed. Let us be an asset — Let us speak with authority — Let us know when to keep quiet — when to speak to advisors.

Let us be responsible for new members. Let us try to have every Doctor's wife an Auxiliary member. Let us have a happy and fruitful year.

(Mrs. J. M.) M. G. McDonnough
President-Elect

ARMY SHORT 1,325 PHYSICIANS NOW!

The Army currently has an immediate shortage of 1,325 physicians. These physicians must be provided very shortly if essential medical service is to be maintained. The following steps have been taken toward this objective: A limited number of World War II physicians are being called involuntarily from the Reserves. In addition to those called as individuals, Reserve medical officers assigned to Organized Reserve Corps units be called to duty as their units are brought into active service. The professional complements of the larger medical units will not be called for initial training phases. Approximately 500 physicians with World War II service are affected by individual and unit recalls.

In addition, the Navy is making an initial recall of 570 V-12 physicians in the Naval Reserve who have not had previous active duty. These physicians will be detailed to the Army to meet current critical requirements. As soon as the Selective Service System starts meeting

our requirements, Navy personnel will be returned to that service and involuntarily recalled Reserve officers will be released from duty except for those in the higher grades being utilized as specialists and in senior command assignments. Specialists cannot be released unless Public Law 779 provides replacements for them. Army requirements will be 3,200 physicians to meet current expansion plans.

From the foregoing, it is obvious that practically all physicians in category one under Public Law 799 as well as a sizable proportion of category two will be brought on active duty. There are certain specific advantages that will accrue to those who volunteer now rather than wait a few weeks for the draft. First, volunteers will receive an additional $100 per month professional pay. Second, those who volunteer and are commissioned need not register. Third, professional skills can be utilized better than under Selective Service, which makes only bulk numbers of physicians available without classification. Fourth, those who volunteer will have the satisfaction of knowing they are rendering service to their country at a time when international tensions are threatening a way of life which has made possible the development of a medical profession that embodies the highest principles and ideals of the Hippocratic oath.

Individuals can obtain information and necessary instructions for obtaining Reserve Commissions from the Office of the Unit Instructor, in the Military District in which they reside. Inquiries also may be directed to the Surgeon of the Army Area in which they reside, or the Surgeon General, Department of the Army, Washington 25, D. C.

AMERICAN ACADEMY OF DERMATOLOGY AND SYPHILOLOGY

The ninth annual meeting of the American Academy of Dermatology and Syphilology will be held in Chicago from Saturday, December 2nd through Thursday, December 7th, it is announced by Dr. John E. Rauschkolb, secretary-treasurer of the Academy, of Cleveland (P. O. Box 6565), Ohio.

The principal sessions will be held at the Palmer House, with special courses in histopathology and mycology scheduled for Saturday and Sunday, December 2 and 3, at the Medical Schools of the University of Illinois and Northwestern University. Special courses in x-ray and radium therapy, and bacteriology of the skin, will be held Saturday and Sunday at the Palmer House. There will also be special courses in anatomy and embryology of the skin and special problems in dermatohistopathology Sunday at the Palmer House.

Extensive scientific and technical exhibits will be set up in connection with the meeting.

Special lectures will be given on: Pemphigus Vulgaris, "Dermatologic Aspects of Eruptive Fevers in Children", "Use of Cortisone and ACTH in various clinical states with special regard to dermatologic aspects", "Dermatological Manifestations of Parasitic Infections", "The Histological diagnosis of Malignant Melanoma", "Cyclic Estrogenic Hormone Therapy of Acne Vulgaris in the Female", "Value of Plasma L. E. Test in Diagnosis and Treatment of Lupus Erythematosus: and Influence of Cortisone and ACTH".

DERMATOLOGICAL PRIZE ESSAY CONTEST

The American Dermatological Association is offering a prize of three hundred dollars for the best essay submitted of original work, not previously published relative to some fundamental aspect of dermatology or syphilology. The purpose of this contest is to stimulate younger investigators to original work in these fields.

Manuscripts typed in English with double spacing as for publication, together with illustrations, charts and tables, are to be submitted in triplicate not later than February 1, 1951, and should be sent to Dr. Louis A. Brunsting, Secretary, American Dermatological Association, 102-110 Second Avenue, Southwest, Rochester, Minnesota.

Competition in this prize contest is open to scientists generally; not necessarily physicians.

The award will be made by a committee of judges selected to pass on the essays by the Research Aid Committee of the American Dermatological Association and the decision of the judges shall be final. This contest is planned as an annual one, but if in any year, at the discretion of the Research Aid Committee and judges,

no paper worthy of a prize is offered, the award may be omitted.

The prize winning candidate may be invited to present his paper before the annual meeting of the American Dermatological Association with expenses paid in addition to the three hundred dollars prize. Further information regarding this essay contest may be obtained by writing to the secretary of the American Dermatological Association.

The next annual meeting of the American Dermatological Association will be the Diamond Jubilee Observance of its founding and will be held May 23-26, 1951, at the Homestead, Hot Springs, Virginia.

CLINICS FOR CRIPPLED CHILDREN LISTED FOR DECEMBER

Doctor Herbert R. Kobes, director of the University of Illinois Division of Services for Crippled Children, has released the December schedule of clinics for physically handicapped children. The Division will conduct 11 general clinics providing diagnostic orthopedic, pediatric, speech and hearing examinations along with medical social and nursing services. There will be 4 special clinics for children with rheumatic fever and 2 for cerebral palsied children.

Clinics are held by the Division in cooperation with local medical and health organizations and groups, hospitals, civic and fraternal clubs, and other interested groups. From private physicians, who are certified Board members, are selected the clinicians. Any private physician may refer or bring to a convenient clinic any child or children for whom he may want examination or may want to receive consultative services:

The December clinics are:

December 5—Fairfield, Masonic Temple
December 6—Aurora, Copley Hospital
December 6—Rock Island (Cerebral Palsy), St. Anthony's Hospital
December 7—Macomb, Marietta Phelps Hospital
December 8—Chicago Heights (Rheumatic Fever), St. James Hospital
December 12—Peoria, St. Francis Hospital
December 12—E. St. Louis, Christian Welfare Hospital
December 13—Springfield (Cerebral Palsy), Memorial Hospital
December 13—Hinsdale, Hinsdale Sanitarium
December 14—Springfield, St. John's Hospital
December 14—Elmhurst (Rheumatic Fever), Memorial Hospital of DuPage County
December 15—Chicago Heights (Rheumatic Fever), St. James Hospital
December 19—Peoria, St. Francis Hospital
December 19—Effingham (Rheumatic Fever), Douglas Township Bldg.
December 20—Chicago Heights, St. James Hospital
December 21—Normal, Brokaw Hospital
December 21—Rockford, St. Anthony's Hospital

In carrying on its program the Division works cooperatively with local medical societies, hospitals, the Illinois Children's Hospital-School, civic and fraternal clubs, visiting nurse associations, local social and welfare agencies, local chapters of the National Foundation for Infantile Paralysis and other interested groups.

The Division of Services for Crippled Children is the official state agency established to provide medical, surgical, corrective and other services and facilities for diagnosis, hospitalization, and after-care for children who are crippled or who are suffering from conditions which may lead to crippling.

OTOLARYNGOLOGY POST GRADUATE CONFERENCE

The Annual Postgraduate Conference in Otolaryngology at the State University of Iowa, will be conducted on November 27 to December 2, 1950, at the University Hospitals, Iowa City, Iowa. Further information may be obtained from the Director of Medical Postgraduate Studies, Medical Laboratory Building, Iowa City, Iowa.

Dean M. Lierle, M.D.
Iowa City, Iowa

ORIGINAL ARTICLES

Clinical Significance of the Femoral Hernia

Manuel E. Lichtenstein, M.D. and Keith H. Frankhauser, M.D.
Chicago

Femoral herniae are not uncommon but their importance lies in the errors commonly made in the diagnosis of this condition and the failure to appreciate fully the clinical significance of the condition when present.

In a period of four years (1946-1949) there were admitted to the Norwegian-American Hospital, Chicago, 50 patients with femoral herniae. This report concerns the findings in this group and is presented with the hope that the observations recorded here will be of interest to those called upon to treat this condition.

Table 1 shows that 13 of the 50 occurred in men — a ratio of approximately 1 to 3 in the female. The largest number were fund in individuals over forty years of age. Only 8 of the 50 were under forty while 17 were over sixty years of age. This is significant, because elderly patients frequently develop a variety of abdominal complaints which may be attributed to an intra-abdominal lesion while a significant femoral hernia is overlooked in spite of incarceration or strangulation. There were 37 on the right side, 10 on the left side and in three instances the condition was bilateral. It is likely that the sigmoid colon overlying the femoral space, plays a role in preventing the more fre-

TABLE 1 AGE, SEX, LOCATION

Age	No.	Male	Female	Right	Left	Bilat.	Sugr.	Med.
5-19	3	1	2	2	1	0	3	
20-29	3	0	3	3	0	0	3	
30-39	2	1	1	2	0	0	1	1
40-49	11	2	9	9	2	0	11	
50-59	14	3	11	11	2	1	14	
60-69	12	5	7	7	4	1	11	1
70-79	5	1	4	3	1	1	4	1
Total	50	13	37	37	10	3	47	3

From the Division of Surgery Northwestern University Medical School, Cook County Graduate School of Medicine and the Norwegian-American Hospital, Chicago, Ill.

TABLE 2 RELATIONSHIP BETWEEN INGUINAL AND FEMORAL HERNIAE

Case	Age	Sex	Previous Operation	History
1.	22	F.	1 yr.	Inguinal hernia repair done on right side. No definite sac found. Hernial mass still present following surgery. Patient refrained from heavy lifting until she noted pain and gradual enlargement of mass. Repair of femoral hernia cured the condition.
2. a.	50	F.	9 yrs.	Immediately following an inguinal operation for repair of a hernia the patient noted persistence of the original hernia. Recent development of pain and gradual enlargement prompted desire for treatment. Repair of the femoral hernia cured the condition.
3.	39	M.	9 mo.	Following an inguinal operation for hernia the patient noted the same lump present in the groin. Repair of the femoral hernia cured the condition.
4. b.	54	M.	20 yrs.	The patient noted the development of a mass in the groin many years after repair of an inguinal hernia. The second hernia was not in the same location as the first. There appeared to be no relationship between the two conditions.
5.	60	M.	14 yrs.	The present mass in the femoral region was not the same as the mass removed by an inguinal hernia repair 14 years previously.
6. c.	54	M.	0	Rupture in groin 15 years duration. Increase in size during last six years because of severe cough. Clinical diagnosis: Right inguinal hernia. At operation there were found a pantaloon hernia in the inguinal region and a right femoral hernia.
7.	69	M.	0	The patient was admitted to the hospital 3 months previously because of acute urinary retention due to benign prostatic hypertrophy. Prostatic resection was done. Returned for repair of bilateral groin hernia which had enlarged tremendously before prostatic resection was done. At operation he had bilateral femoral and a left indirect inguinal hernia.

a. Inguinal operation failed to cure femoral hernia.

b. Inguinal operation unrelated to femoral hernia.

c. Inguinal operation for inguinal hernia concomitant with femoral hernia.

quent development of the hernia on the left side.

Table 2 is especially significant. It concerns the relationship between inguinal and femoral herniae. More commonly the femoral hernia is mistaken for an inguinal hernia and the effort at repair is misdirected. Even in this small series it was found in three instances. (Table 2-a). The importance of the physical examination in distinguishing between the two must be emphasized. Examination of the patient in the standing position makes the distinction obvious on inspection in the majorty of instances. On palpation the mass of the femoral hernia is lateral to the pubic spine (Figure 1).

The sac of the femoral hernia is made up of three layers (Figures 1 a-b). The outer layer of fascia is derived from the femoral sheath. This layer frequently is so thin that it forms a transparent surface envelope. The inner layer is an outpouching of the peritoneum into the femoral canal. The intermediate layer is derived from the extraperitoneal fatty layer. This fatty and vascular layer varies considerably in thickness. Thus the wall of the sac may be thick (Figure 1-c), or thin (Figure 1-d) according to the fatty investment in the intermediate layer. Once the sac has developed in its herniated position, replacement into the abdomen is the exception and not the rule. The contents of the sac (bowel, omentum or pelvic viscera) may be replaceable, but the sac itself usually remains more or less fixed in its newly developed position in the subcutaneous fat of the groin. This is one of the characteristic features of the femoral hernia and helps to distinguish it from the inguinal hernia. The sac of the indirect inguinal hernia is a pouch of peritoneum occupying a position within the cord structures surrounded by the vascular layer and the internal spermatic fascia. When the contents of the hernial sac are reduced it may be impossible to palpate the sac because of its thin wall and its seclusion within the cord structures. The sac of the direct inguinal hernia is made up of three layers. The outer thin-walled fascial layer is derived from the defective transversalis fascia in the triangle of Hesselbach. The inner layer is con-

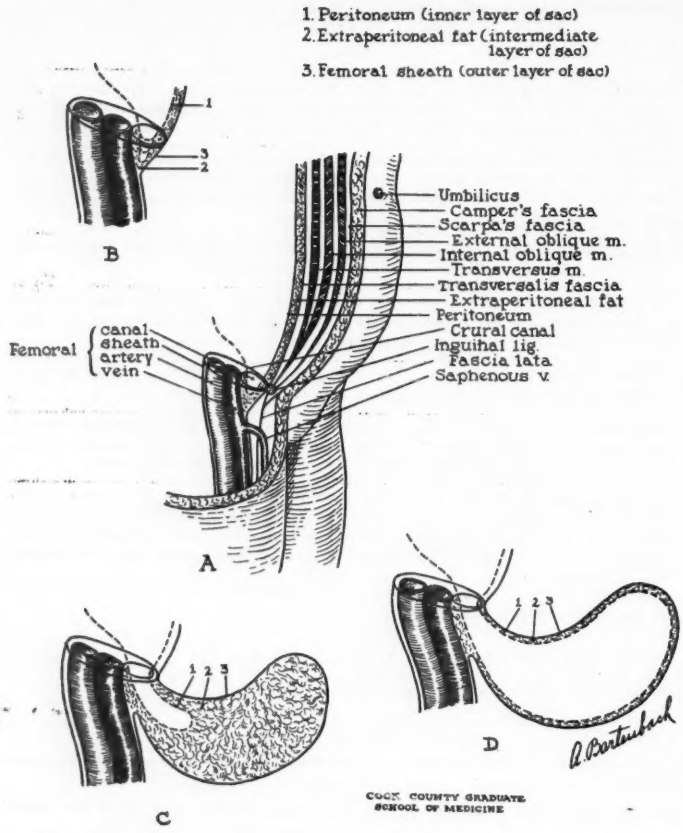


Figure 1. Anatomy of the femoral hernia. Note the three layers which constitute the sac and the variation in thickness of the intermediate layer.

tinuous with the peritoneum. The intermediate layer consists of extra-peritoneal fat. This sac commonly has a broad base, and with the patient in a reclining position both the sac and its contents may be returned into the abdomen with comparative ease.

The repair of an inguinal hernia will not prevent the development of a femoral hernia (Table 2-b). In the two instances recorded here 14 and 20 years elapsed between repair of the inguinal and femoral herniae. It is doubtful that the repair of an inguinal hernia anatomically disturbs the femoral region sufficiently to predispose to femoral hernia formation. The lapse of many years would indicate that other factors play a role in the development of the hernia.

The other factors are illustrated in (Table 2-c). In this group both inguinal and femoral herniae were present. The increased intra-abdominal pressure, occasioned by coughing in one instance and straining in the other, played a role in the increase in size of the hernial protrusions. The higher incidence of herniae in the elderly adult is very likely associated with the increase in intra-abdominal pressure due to coughing, straining (constipation, difficulty in urination and laborious physical effort) and obesity acting on tissues that have undergone wear and tear over many years. Also the actual growth of fat in the intermediate layer of the sac helps to increase the size of the protruding mass.

Table 3 is a summary of three patients who were not operated upon. One of these, (Case 1) left the hospital without operation following reduction of an incarcerated hernia. Since a hernia presents the risk of a serious complication such as bowel obstruction or strangulation, it is advisable that femoral herniae be repaired soon after their presence is detected. The hernial sac is superficial. The operation may be done under local anesthesia if preferred with little disturbance to the patient. Early ambula-

TABLE 3 SUMMARY OF PATIENTS GIVEN NON-SURGICAL THERAPY.

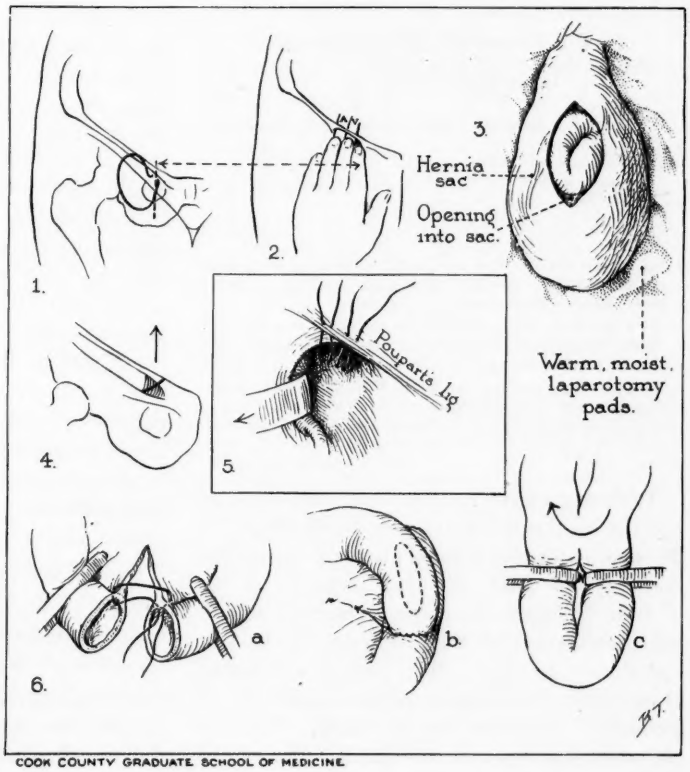
Case	Sex	Age	Diagnosis on admission	Disposition	Length of hosp. stay.	Duration of obstruction from history.
1.	F.	32	Femoral hernia with pain in RLQ	Recovery & Discharge	2 days	
2.	F.	78	Acute intestinal Obstruction — Cause undetermined	Death (a)	20 hrs. after admission	6 days
3.	F.	69	Cerebrovascular accident and bronchopneumonia	Death (b)	19 days after admission	5 days

a. — Post mortem examination showed strangulated bowel in a femoral hernia sac.

b. — Post mortem examination showed strangulated bowel in a femoral hernia sac.

tion is desirable and the disability usually is the least of any associated with abdominal hernia repair. Recurrence of a femoral hernia when properly repaired is exceedingly rare. (Figure 2).

One patient (Case 2) died from acute intestinal obstruction of six days duration but less than one day after admission to the hospital. The patient was treated medically and the hernia remained unrecognized. At autopsy the strangulated femoral hernia was demonstrated. Another patient (Case 3) died from a combination of causes including bowel obstruction. This patient was an obese 69 year old white female with a past history of two cerebrovascular accidents. On admission the patient was in a semiconscious state and although she did not respond to questions she co-operated when requested. Additional findings disclosed were left sided bronchopneumonia, auricular fibrillation and an old right hemiplegia with a recent left hemiplegia. The patient showed some improvment for the first 10 days following hospitalization. On a liquid diet there was no nausea or vomiting.



COOK COUNTY GRADUATE SCHOOL OF MEDICINE

Figure 2. 1. Site of neck of femoral sac. 2. Location of neck determined by index finger placed medial to the femoral vein with the ring finger on the pulsating femoral artery. 3. Incision into femoral ring. 5. Closure of the ring. 6. Methods for restoring continuity following bowel resection. 4. Method for enlarging the sac.

Although urinary and fecal incontinence were noted on admission to the hospital, there had been no bowel movements for five days prior to death. Post mortem examination showed strangulated bowel in a femoral hernial sac.

It is not likely that any benefit would have been derived from the repair of the femoral hernia in this case. However, it indicates that the diagnosis was incomplete and suggests that repeated examinations, including the femoral region be made in any patient with bowel obstruction or in one whose bowel movements have ceased for any length of time. The two deaths noted here in elderly patients, associated with undiagnosed strangulated femoral herniae, illustrate the significance of the earlier comment. It is necessary to keep in mind this likely cause for sudden constipation or bowel obstruction in the elderly patient who cannot or does not indicate the site of the incarcerated bowel.

That such deaths may occur without a full appreciation of the significance of the femoral hernia is attested to, also, by the reports of Dunphy[1], Gatch[2] and others[5 7].

TABLE 4 OPERATED FEMORAL HERNIAE

(47 Patients had 50 herniae)

Type of Femoral Hernia	No.	Mortality	Comment
1. Uncomplicated	33	0	a, b
2. Incarcerated or strangulated without resection.	12	0	c
3. Strangulated bowel with resection.	5	0	See Table V
TOTAL	50	0	

a. In one hernial sac there was found a nodule showing metastatic papillary adenocarcinoma. In addition a lymph node showed chronic lymphatic leukemia.

b. In addition to the herial sac the specimen showed an enlarged lymph node which on microscopic examination disclosed lymphosarcoma.

c. In addition to the hernial sac the specimen showed reticulum cell type lymphosarcoma.

Table 4 presents the signficant data concerning the 50 femoral herniae operated upon. In 33 uncomplicated femoral herniae uneventful recovery took place following surgery. In two of them additional diagnoses were made following examination of the specimens removed at operation. In one a tiny nodule was found. Microscopic examination disclosed this to be metastatic carcinoma for the ovary. The hernia which had been non-symptomatic for several years, had only recently become enlarged and painful. The sac contained easily replaced contents which were reduced before surgery was done. Tissue removed also contained a lymph node typical of chronic lymphatic leukemia, but the latter was known before surgery was done. In the second instance a lymph node was removed with a hernial sac containing fluid.[6] The microscopic picture showed lymphosarcoma from which condition the patient subsequently died. In twelve instances of incarcerated or strangulated femoral herniae surgery relieved the condition. In one of these, sections from a removed lymph node also showed lymphosarcoma.

Thus in the 50 femoral herniae, three instances of malignancy were found. This is significant in the prognosis when one is called upon to repair what looks like a benign condition and is confronted with a disease of grave significance. This can hardly be called "uneventful recovery."

Table 5 is a summary of the five patients with strangulated bowel all of whom required bowel resections and all of whom recovered. However, an analysis of these cases illustrated several points of clinical signifiance. Even in this small series delay in necessary treatment occurred in three instances where the full signficance of a femoral mass was not appreciated by the house staff on admission of the patient to the hospital. While bowel resection was readily accomplished in each instance some disability may have been averted by earlier surgery, especially in case 2. Recovery and healing eventually occurred even in this case. However, early diagnosis and early treatment will leave less to chance and avoid the hazards which delay entails.

Delay in treatment is often due to error in diagnosis. This is frequently the result of failure to examine for a mass in the femoral region in the presence of pre-obstructive gastro- intestinal symptoms, or failure to appreciate the significance of a femoral mass when it is noted.

One of the most common causes of intestinal obstruction is incarceration of abdominal contents in a herial sac. Examination, therefore, of the sites of the hernial rings is necessary to make a diagnosis. Local pain may be so mild that it does not direct attention to the seat of the trouble. The mass is commonly small in

TABLE 5 SUMMARY OF 5 PATIENTS WHO HAD BOWEL RESECTIONS.

Case	Age	Sex	Duration	Date & Time of admission	Date & time of Surgery	Complications	Date of Discharge
1.	65	F.	48 hrs. prior to admission abdominal pain, cramps & vomiting	5-8-46 5:30 p.m.	5-8-46 9:30 p.m.	None	5-28-46
2.	59	F.	48 hrs. prior to admission abdominal pain cramps and vomiting	7-18-47 5:00 p.m.	7-22-47 3:00 p.m.	Temp. over 101 for 6 consec. days pelvic abscess fecal fistula wound infec.	9-1-47 wound healed
3.	50	F.	6-8 hrs. prior to admission abdominal pain and cramps	10-11-47 2:45 p.m.	10-12-47 4:30 p.m.	None	10-22-47
4.	44	F.	24 hrs. prior to admission abdominal pain and cramps	11-14-49 7:00 p.m.	11-15-49 6:30 p.m.	Temp. over 101 for 48 hours	11-26-49
5.	54	F.	8-12 hrs. prior to admission abdominal pain cramps and vomiting	12-31-49 1:15 a.m.	12-31-49 3:00 a.m.	None	1-10-50

size and for this reason, in some instances, the patient or the surgeon may fail to appreciate the relation between the abdominal symptoms and the unobtrusive mass present in the groin.

SUMMARY

In this series, there were 50 patients with a total of fifty-three femoral herniae. Forty-seven of these patients were operated on for 50 herniae (three bilateral). There were no deaths in the group that had surgical treatment. Five of these patients required resection of strangulated bowel.

The following clinical features of this condition are emphasized.

1. Femoral herniae are frequently mistaken for the inguinal variety and remain uncured following the inguinal operation.

2. Femoral herniae frequently are overlooked as a cause for bowel obstruction. This error in diagnosis is responsible for delay in specific treatment for this condition.

3. Bowel resection when undertaken early, following strangulation is easily accomplished with little disability for the patient.

4. Neglect of the condition favors complications which add to the disability and at times results in the death of the patient.

5. The possibility of malignancy associated with femoral hernia must be appreciated.

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Limitations of Cytological Diagnosis From the Pathological Standpoint

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I have no formal paper to present to you today. I am going to talk "on the hoof", so to speak, and bring up various pitfalls that one encounters in connection with practicing exfoliative cytology.

One of the first difficulties in the method is the obtaining of the smears. The smears necessarily are usually obtained by the practitioner and are then sent in to the laboratory for diagnosis and it is very important that those smears be made in the proper way.

In connection with vaginal smears, it is important that no examination be made on the vagina immediately prior to taking the smear. The vagina should be in a relatively resting condition, otherwise a great many cells are exfoliated on account of the manipulation that goes on and the tremendous number of normal elements obscures the abnormal elements, so that one can't make a ready diagnosis. Otherwise the taking of vaginal smears is fairly simple. However, it is important that sufficient material be obtained and that the smears be reasonably copious and homogeneous before they are fixed. We often get smears that are little spirals of insufficient material and one can't do anything with them at all.

In the case of taking smears of suspected carcinoma of the lung; in the first place, if you are going to take a smear of sputum it is necessary that the physician be asked to get a "deep cough" specimen. Shallow cough specimens merely produce cells from the upper respiratory tract and its very upper extremity, usually the oral cavity, and show little. Later I'll show you a slide from one of those.

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In taking washings, tracheal or bronchial washings, it is important that the material be obtained through the mouth rather than through the nose because the introduction of the nasal tube is apt to dislodge nasal mucosa which, as you know, is quite complicated and this introduces a lot of factors that make diagnosis difficult.

In making smears it is very important that they should be immediately fixed in alcohol and ether in equal amounts and not allowed to dry before they are fixed. I am going to take that matter up in a minute.

In taking smears from fluids, such as washings, a centrifugate is obtained and then mixed with equal parts of alcohol and the mixture sent into the laboratory. It is better that the smears be made by the technician and not the practicing physician in these cases.

In the case of taking urinary sediments, the procedure is about the same; but if the physician suspects that he is dealing with a prostatic carcinoma, it is well that he should take more than one specimen. It is best to obtain at least three specimens and possibly four. One of those, the first, is a partially voided specimen. I mean by that that the bladder is partially emptied. It is a specimen of the first urine voided from the bladder. Then the prostate is massaged and the prostatic secretion collected and a smear made directly from this. Thirdly, the bladder is completely emptied, and that is specimen number three. Fourthly, an ejaculate is advisable if it can be obtained. In that way everything has been done to obtain cells from the prostate.

In the case of gastric specimens the use of the Rehfuss tube with a bucket tip has been found to be the best, and in that way we can sometime get cells from carcinoma of the gall bladder and pancreas as well as from the stomach. The smears are made in essentially the same way. In that case one washes out with a con-

siderable amount of fluid. The patient is asked to drink from two to three hundred c.c. either of salt solution or Ringer's solution along the tube and then that is pumped out and sometimes repumped into the stomach and reaspirated and the patient shaken. It is thus very important that this material be taken in the proper fashion. It is also important that the practitioner send in some sort of a history. You'd be surprised to see how many specimens we get which are accompanied merely by a diagnosis and the name of the patient. The age isn't given; the length of the symptoms isn't indicated; and one is left completely in the dark as to how to proceed.

Now, so far as the smears are concerned, I mentioned drying . If a smear is allowed to dry before it is fixed, the cells shrink. Part of them adhere to the slide and part of them shrink back so that there is a production of pseudopodia and irregularity of shape, and very often vacuoles which are all artefacts and very largely nullify the effect in reading the specimen.

After fixing the slide in alcohol and ether I have personaly found that it can be allowed to dry and then can be replaced in alcohol and ether for a short time before it is run through the stains. The method of putting on glycerin that I mentioned yesterday is apparently not entirely satisfactory. It was an idea of Ayre's and I have been told that it is difficult to get rid of the glycerin and get good stains after the sections come in. That is something I learned this morning from a man who has tried it and is thoroughly dissatisfied with it. The type of fixation, alcohol and ether, is really very important because we experimented with other types of fixation, ordinary formalin and Zenker's solution and so on, and found that they didn't work as well as this very simple ether and alcohol which gives you a very transparent smear.

Of course, if you want to use Giemsa's solution, it is permissible to alter the fixation slightly and use a solution of saturated mercuric chloride in absolute alcohol and then Giemsa's stain. Usually the stains are largely a matter of personal choice. Papanicolaou has a great many of them and Shorr has invented a very good polychromatic stain; even hematoxylin and eosin give a very good idea on these smears, but a poor stain is a poor stain and if your technic isn't carried out scrupulously, interpretation of the resulting smears is difficult.

I have mentioned the difficulty of trying to deal with insufficient material in smears. That comes up repeatedly: smears which have so little material on them that one can't make anything out of them at all.

It is also important in taking gastric smears that the patient be in a fasting condition and that there is nothing in the stomach. The extraneous material introduces all sorts of cells which the pathologist is more or less familiar with, but which are quite foreign to the human body. That is, bits of foodstuff, starch granules, muscle in the form of meat, and other such material which is readily misinterpreted.

In connection with the washings from the colon which are surprisingly illuminating when they are properly done, it is important that the patient should be thoroughly cleaned out with a purge, a drastic purge like castor oil or something of that sort and then kept on a fluid diet for two days before the high colonic enema is given which produces the cells. Otherwise there will be a great deal of fecal material which will be extraneous and will have to be ruled out.

Now we come to the matter of the cytologist himself. With the introduction of the method there has been an erroneous impression that the technician in the laboratory could be trained to read these smears. That is true only when the technician has been trained for a long time. Technicians, some of them, get to be very excellent cytologists, particularly those with a background of biology from college and so on, but one must remember that the technicians are not qualified physicians and this diagnosis is after all the practice of medicine and there is a great deal of responsibility inherent to it, so that the idea of training a technician to do the smear work in an office or a group is very erroneous.

I was told last spring by a prominent pathologist that he knew of one of his technicians who had gone off to learn this smear method in a doctor's office by the simple procedure of trial and error. She was quite starry-eyed. She thought she was going to be of great use to humanity and that she was going to make the diagnoses for the doctor. Fortunately she was a very honest girl and after a week or so at the

job she realized that she was not qualified to do it and that she couldn't do it.

The average pathologist is entirely capable of learning the method. When I say learning, it is a matter of accustoming oneself to the appearance of smears as opposed to that of sections. We are all used to looking at sections and when we get to smears they are a little bit different, but after all they are not different from smears of blood or other such material with which the clinical pathologist is dealing all the time.

However, I also think, if a man is going to take up exfoliative cytology, that as part of his work he should familiarize himself with the pitfalls that arise in connection with this diagnosis. A perfectly blatant and obvious carcinoma can be diagnosed by almost anyone in pathology. But there are some of these smears that we've learned empirically to interpret as possible carcinoma which have to be learned by experience. So it is just as well to have a little of this.

It has been told me that the osteopaths here in Chicago are instituting laboratories for cytologic diagnosis and that the diagnoses are being handed out wholesale and are not what one might call entirely reliable.

Now we come to the economic drawbacks of the method which are considerable. The idea that the average pathologist in a hospital or clinic can put this work on top of his daily stint and get away with it is erroneous. It is only when there are very few smears coming in that the pathologist has time to do this and, possibly unfortunately, there has been quite a lot of publicity about the method which has caused the public to demand smear diagnosis. As a result a pathologist is found to be entirely incapable of carrying on all this added load of work. He can get around it to a certain degree by training technicians; that is the technicians screen out the suggestive material and pass it along to him for his okay and the negative material he just doesn't look at. It has been estimated that fifteeen minutes per slide is about the average time required to diagnose with accuracy and you can see if you have eight or ten smears and multiply that by fifteen minutes, it is going to take up a lot of your day. So that that introduces the necessity for setting up a separate laboratory for this work.

In most instances doing so entails a certain amount of financial expenditure and a budget is necessary to swing this added work. Usually one of the members of the Department of Pathology, or if there be no Department of Pathology, a new man has to be engaged to act as cytologist and he should have one or two technicians who are capable of screening and making the smears and very often it is necessary to have an added secretary to get out the reports.

The reason for this is that the minute one announces that this service is available in the hospital the physicians begin to include it in the so-called "daily workup" of the patient. You are all familiar with "the workup." You get a flat plate of the chest and you get a blood chemistry, and you get a urine chemistry, and then you get a blood count and you go on to an E.K.G. — possibly and E.E.G. — and then you send in one of these smears to the laboratory on the chance of picking something up and then you get out your stethoscope and do a little investigation. [Laughter]

As an illustration of this, here is a list of specimens which were sent in to our laboratory last winter. On December 9th I picked up four of them in order as they came in. First was a sputum and the diagnosis was "uninary retention." The second was a gastric smear and the diagnosis was "combined system disease." The third one was a good deed in a naughty world; it was a gastric smear and the diagnosis was "suspected gastric carcinoma." The fourth one was a sputum and the diagnosis was cholecystitis. Those were taken from a list of specimens sent into Dr. Papanicolaou's laboratory.

Here are some other startling requests we had. Urinary specimen with a diagnosis of ca. of the pancreas. Sputum, menopausal syndrome. A urine specimen and the diagnosis, "observation." That was obviously a workup. We had a gastric smear and the diagnosis cholecystectomy. They had just done a cholecystectomy so they did a gastric smear. A sputum, "cholecystectomy." A sputum, diagnosis, carcinoma of the rectum. A rectal washing, diagnosis "Esophageal diverticulum, and they specified it was of the pulsion type and finally a sputum and diagnosis "leak" in the rectum, spelled l-e-a-k. That shows you

what you have to deal with if you set up one of these services. They were taken from Dr. Papanicolaou's department in the New York hospital. The specimens were all sent down by energetic and ambitious young residents, probably, and some of these diagnoses may have been slightly garbled by the nurses in transmission, but they were essentially correct and naturally the results were completely negative. So we have those things to deal with from the economic standpoint.

Then even qualified men make misinterpretations. There are certain cells with which one has to become familiar and which must be ruled out and very often two or three men examining the same case may give two or three different interpretations. One example occured this winter. A woman, who was personally known to me went to one of the large hospitals in New York. She had premenopausal symptoms and a vaginal discharge — with spotting — and a vaginal smear was reported as carcinoma. Her husband asked me if I would look at the slide which I did and I found a premenopausal slide without any evidence of carcinoma and handed it on to Dr. Papanicolaou who confirmed it. Again a smear was taken and again the same positive report came in at the other hospital and again Dr. Papanicolaou and I countermanded it and the gynecologist did a curettage obtaining completely normal cells so far as carcinoma was concerned, completely normal endometrium. So that men in very large gynecological services sometimes slip up because of insufficient training.

That particular man had worked up the hard way. I think he is not a pathologist. He was a gynecologist and he had a certain amount of experience in reading these smears. Dr. Simonds just spoke of the diagnosis of one cell: that is pretty hazardous. Sometimes we find one very odd cell in a smear which we are reasonably sure is a carcinomatous cell, but it would be unjustifiable to make a diagnosis of carcinoma on the basis of that one cell. It is like the famous swallow in the summer time, one of them does not make a summer, and one abnormal cell doesn't necessarily make a diagnosis of carcinoma. We prefer to get clumps of cells before we issue our highest grade of classification.

Now, Papanicolaou has five classes of reports, which may seen too many to most of you. It did to me when I first joined his department, but I think the wisdom of it has come out. Class One is completely negative. The cells are quite normal. Class Two indicates abnormal cells but not neoplastically abnormal. They are abnormal cells which can be interpreted as a result of inflammation or irritation. Class Three begins to be questionable and the minute a "class three" diagnosis is issued from the laboratory it automatically indicates a request for another specimen. It is when we find single cells that we are very apt to call smears Class Three; when we only found one cell that we thought was carcinomatous. Class Four is presumably carcinomatous and that category could possibly be omitted. Class Five is conclusively carcinomatous and that diagnosis is issued when there are clusters, groups and ample evidence of carcinoma being present.

Now when we report Class Five it is always advisable to get a biopsy and check up on this with sections. When I say advisable, it is almost a necessity. But in some cases we do make a diagnosis on the basis of smears if we have strong clinical support. That is particularly true in the case of the urinary system and in the case of the lung. There, it is impossible to take biopsies in those two instances. For instance, you can't take a biopsy from the pelvis of the kidney without doing a laparotomy and you can't take a biopsy from one of the bronchi that cannot be reached by a bronchoscope.

Wherever it is possible to take a biopsy it should be taken and no operation should proceed unless that biospy has confirmed the report on the smear. If an operation is undertaken on the basis of evidence from smears, there should be two or three positive reports preceding that operation. In that way we are not liable to go wrong.

DISCUSSION

Dr. Pilot: Dr. Foot's fine talk very much reflects what we brought up a year ago. I think it is quite obvious that in order to avoid all the pitfalls that he brings out young men who are training in this field must become thoroughly acquainted with the exfoliated cell of normal secretions and of secretions under inflammatory conditions. I

think most of our puzzling cases in the sputum and in the cervix smears are from benign ulcerated processes that give rise to peculiar changes in the epithelium that in the past we have referred to as epithelial cells giving the bizarre appearance due to inflammatory hyperplasia.

I have only one question in relation to this work. I wonder if Dr. Foot would briefly give us his experience on the relative merits of the staining procedures. We, of course, use the Papanicolaou staining in connection with our vaginal smears because of the clear and sharp differentiation of the epithelial cells showing their physiological endocrine changes but in other secretions we use the simple H & E stain although in some instances we have found that the Papanicolaou stain gives perhaps superior histologic detail.

Dr. N. Chandler Foot (closing): Training of young men is a very important thing, but naturally I am not propagandizing training courses in our laboratory. We are giving preference to pathologists, (I do not think it is indiscreet for me to say so, naturally we should); in second line to gynecologists, who because of their work, are very much interested in pathology and some of them are excellent gynecological pathologists, more trustworthy than the general pathologist.

One man came to our laboratory, the director of a very large and important laboratory in New York, and stayed two or three days and then threw up his hands and said, "There is entirely too much work here for me to institute anything like this in my hospital".

As to the relative methods of staining which Dr Pilot asked about, judging from your pictures in the Scientific Exhibit I should think you have mighty good ones. The Papanicolaou method is chiefly valuable because most of the solutions are in alcohol and it adds to the transparency. That is one of the reasons it is good. Another reason that the stains are good is that he is inclined to include Orange G which is useful in gauging the amount of keratin present in cells. I do not hold, and I do not think that he holds, any brief for using his stains. He has over 200 of them, and a great many of them are closely guarded top-drawer formulae. I think that the choice is, as I said, largely a matter of taste.

Hematoxylin and eosin is good. I think it falls down in the matter of keratinization and I am inclined to quote from one of our late professors of histology who was a foreigner and who said to the students, "Eosin is a splendid stain. It stains the nucleus, it stains the cytoplasm, it stains the towels, it stains *peanuts*." You have a stain which is too diffuse; I mean is a litte too diffuse. It is very apt to stain the background, the extraneous material, and you do not get such clear detail.

Personally, and I say this somewhat guardedly, I find the Shorr stain is an excellent one; it brings out very good details. It is a modified Masson which is applicable to smears and which gives you a color scheme to which there is a background of green of which I am very fond. A very nice stain. But the whole matter of stains depends on getting a good transparent one that will bring out the nuclear details accurately and I do not think it much matters what you use.

Incidentally, the very simple fixative of alcohol and ether is surprisingly good.

A CAUSE FOR BACKACHE

In recent years several investigators have called attention to the importance of fat tissue in the subfascial spaces as factors in painful syndromes. Our former concept of fibrositis as a clinical or pathological entity involving muscle or fibrous tissue has been dispelled by the discovery that the painful lesions which were interpreted as "fibrositic" nodules are, in reality, masses of fat tissue which have undergone changes and are causing varying degrees of disability. *Excerpt: Subfascial Fat Abnormalities and Low Back Pain, R. J. Dittrich, M.D., Duluth, Minnesota, Minnesota Medicine, June, 1950.*

Medical Problems in Psychiatric Patients

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Jacksonville

My own contacts with the state hospitals of Illinois probably are chronologically longer even though not as active as those of you here today. Born at the Jacksonville State Hospital, living there and at the one at Kankakee, visiting most of the hospitals at one time or another, either personally or professionally, I have many pleasant associations with the Department and the institutions represented here. The work of Dr. Singer at the Psychopathic Institute in Kankakee, the opportunity to be around the laboratory and see some postmortems by Dr. Bybee of the staff there probably had as much to do with my studying medicine as anything else. Later laboratory and medical training, perhaps stemmed from those early stimuli, have influenced an approach to neuropsychiatry that still tries to correlate or integrate various dysfunctions that are seen in patients.

Recent years have brought about a modification of this approach in an attempt to follow more the teachings of Dr. Adolph Meyer in his psychobiologic approach. His former laboratory in the tower of the Kankakee State Hospital was the photographic section when we lived there. I shudder to think of some of the photographic crimes I committed there but even at that there could not help but be some stimulation from some of the duplicate material that was still around on shelves and in cabinets.

One of the most recent and most intriguing phases is in connection with the newer field of cybernetics or control and communication in the animal and the machine. It appears to offer the most nearly satisfying explanation of a non-metaphysical nature as to the connection between neurophysiology and psychic functions. While as yet it is tied in with higher mathematics, the Boolian system of algebra and the so-called mechanical brain, it has in my opinion definite implications for neuropsychiatry. Hoagland's paper "Rhythmic Behavior of the Nervous System"[1] and Weiner's monograph, "Cybernetics"[2] are two of the most stimulating and thought provoking publications I have read in the last few years. The chief trouble is that they call for more knowledge of mathematics, physics, and semantics than the busy doctor in state hospital or private practice has had in the past or has time to study for in the present. Nevertheless work in such direction has in my opinion most definite implication for future knowledge and understanding of what is going on in the minds and bodies of our patients and ourselves. A comparable future path lies in the direction of another electrochemical mechanism, the enzyme systems.

It would be easily possible in discussing the title of this paper to go through various headings alphabetically such as from abscess to zinc sulphate poisoning. It is believed though that such is not the intent of those who asked me to come here. It is certainly not in keeping with the thoughts expressed above and with the idea of an attempt at integration or correlation of these medical problems with the psychiatric disorder that necessitates treatment.

Many problems have to do with circulatory insufficiency in brain, heart and kidneys. Particularly does this apply in neuropsychiatry as the increased number of patients with cerebral arteriosclerosis occupy more and more beds in hospitals of all types. The patient load is terrific, the load on the patients, their families and the state equally so. Yet a lot can be done for many of them. We all know that simply managing the situation in a controlled environment often makes a lot of difference. An explanation that has been found helpful in talking with relatives and, as things quiet down, with the patients themselves follows a familiar example. Cerebral arteriosclerotics are in much the same position in relation to the environment as persons who cannot swim. They get along fine in shallow smooth water, enjoy the simple proce-

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dures they can follow. However, when rough waves (situations) arise or they get into something over their heads they are immediately in serious trouble. They are in danger themselves and may endanger others. If help is not promptly given, resuscitation applied when necessary, tragic outcome may develop rapidly.

There are certain medical measures of help, even of resuscitation for these people with circulatory insufficiency that are of great value. Fluids, food and attention to elimination are self-evident yet deserve some comment. Nasal feeding is in my opinion more humane and more expeditious than trying to hold a restless patient either manually or by sedation long enough to get adequate intravenous alimentation taken care of. Relief of a rectal impaction and clearing out the accumulated fecal material lessens a superimposed toxic absorption remarkably. An indwelling catheter, with manual restraint (frowned upon I know by the Department of Public Welfare) to see that it stays indwelling, relieves a distended bladder, hydroureter and hydronephrosis thus helping restoration of remaining nephron units.

Drug medication is not of great importance for these patients save for two things (1) avoidance of oversedation, (2) digitalis. Whereas younger individuals tolerate bromides and barbiturates pretty well the arteriosclerotic ones do not. Enough barbiturates to have a sedative effect make for unsteadiness on the feet with greater danger of falls and fractures. Bromide intoxication develops much more rapidly where there is impaired kidney function from arteriosclerotic or other causes. This was summarized in a paper before the State Medical Society in 1946.[3] We like chloral with perhaps a small amount of bromide for these patients.

Sir James Mackenzie years ago and Christian later stated that digitalis in small maintenance doses even in the absence of the usual signs of failure helped improve myocardial efficiency. Though this view has been controverted by some who feel that it is only of value in impending failure, failure, or post-failure situations, clinical experience seems to sustain it. Naturally with failure of either primarily congestive or anginal type digitalization is indicated. It is desired, however, to make the point that a lot of these patients give the impression to the observer that they think better when on digitalis than when off it.

The acid-base mechanism and mineral utilization need to be mentioned along with the circulatory discussion. There are some practical and relatively easily managed phases here that do not call for specially prepared diets that are difficult to have in large groups. The emphasis on the low salt management and the importance of sodium as brought out in recent years has changed dietetic points of view. While salt meats, and salt pack vegetables are cheaper, keep better and to many are more palatable than the unsalted products they are not nearly as much a part of the diet for chronic hospital patients as they were even a few years back. The salt substitutes are still relatively expensive though cheaper than when first brought out. Those on the market now are non-toxic. Ammonium chloride is a good salt substitute, is cheap, is not toxic in usual amounts, has a mild systemic acidifying effect which stimulates urinary excretion. It has been found helpful in many instances quite aside from its use as an expectorant or in connection with mercurial diuretics. The fact that sodium is present in other preparations besides table salt must be kept in mind. Sodium bicarbonate affects both mineral and acid-base mechanisms. Alkalosis with or without tetany can come on in the patient with some arteriosclerotic kidney change along with the cerebral arteriosclerosis. Two of the most marked toxic deliria I have ever seen were in older ulcer patients who had developed the habit of liberal use of soda bicarb for their ulcer symptoms. Lessened renal output, non-protein nitrogen retention, hypochloremia looked bad but cleared up promptly under treatment as did the delirium. Now that the non-absorbed alkali preparations and the adsorbent colloids are used so widely in ulcer management there should be less of this sort of thing.

It is of some interest in connection with the gastric situation just mentioned that achlorhydria is found to increase in frequency in the later years. Bennett and Ryle[4] and Hurst[5] state that 4 per cent of the population are achlorhydric and that in 6th and 7th decades the percentage is higher. There is still another angle to this question. Many depressed persons, many schizophrenics show lessened gastric acidity and secretion but secrete acid with histamine. A paper

twenty years ago before the State Society brought out the fact that with improvement of the nervous or mental condition the gastric response increased.[6] It would be entirely speculative to say whether this is cause or effect. It is believed there is some linkage there with a present interest in hypothalamic mediation. Suffice it to say that we prescribe dilute hydrochloric acid much more frequently than we do alkali, even with a fair number of psychosomatic ulcer patients for whom the latter is used. Some of this is given on the basis of gastric analysis, some on the knowledge that the much used and highly valued vitamin-B complex is not as well absorbed and utilized without free HCl being in the stomach and some just on "hunch."

Other metabolic phases have to do with diabetes, the anemias, the vitamin deficiencies. We have all seen neuropsychiatric patients who have gained markedly in weight, perhaps developed diabetes, just as non-neuropsychiatric patients do. Polyphagia there may be a manifestation of nervousness, it may be an attempt at oral satisfaction. Whatever the underlying factor may be it is important to look out for the diabetic state. Arteriosclerosis develops earlier, progresses more rapidly in the diabetic. We hold with the low fat diet program based on the work of Joslin and his associates,[7] also the pathological and experimental studies of Leary.[8]

On the other hand anemia and deficiency states are really more common in psychiatric situations. Withdrawal, rejection are motivating factors in lessened appetite or perhaps complete refusal of food. While nasal feeding as indicated above will take care of caloric needs, any accompanying anemia, which is usually of the nutritional, iron deficiency type needs attention too. I used to think that thiamin was the more important member of the B group for these people. I now consider niacin and pyridoxin rate equally with it.

I have tried in this paper to bring out some general features that I have found helpful in the care of patients. The most important thing of all is that we are dealing with sick individuals who have personality problems and distortions. Whether these are of so-called psychogenic or functional or organic, or physiologic, or anatomic origin is quite beside the point. Whether the situation is an acute emotional upset of short duration, a long-standing schizophrenic reaction or a senile, second childhood, we see a sick patient. The illness may have medical or surgical concomitants in its origin. Measles, appendicitis, a broken leg, or a lot of other things may happen to that person during the course of the mental illness. They might happen to us too. We want good medical help for these people just as we would want it for ourselves. The large amount of clinical material, even with the patient load each of you carry offers a great chance to learn a lot about people and a lot about medicine. That is good for you and good for all of us as citizens and physicians.

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Kwashiorkor — And Cirrhosis of Liver

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Dr. Robert M. Kark: One might question the advisability of discussing a disease so exotic that its name is unfamiliar to most of us. I believe that such a symposium is indicated when we can learn a lesson about common diseases of temperate climates through comparison with rare conditions. Kwashiorkor actually is a disease of widespread tropical geographic distribution. It has been noted in southern Mexico, Malaya, Puerto Rico, India, and Central Africa among other places. It is a fulminating nutritional deficiency related to diet, climate and the spectrum of other tropical diseases, endemic concomitantly with Kwashiorkor. The name of this disease is "Kwashiorkor" from an African tongue and literally means "red boy" because of the characteristic associated dermatitis. Another tribe has a name which when translated means: "the-disease-the-first-child-gets-when-the-second-child-is-born." This is understandable when the tribal custom of weaning children only after they are three to five years of age is pointed out. Thus, the nutritional deficiency develops after the first child is weaned because the second child is put to breast and the first child gets no more milk. Certain tribes in endemic areas appear immune to this disease. Analysis of their eating habits reveals that some of these drink cow's blood while others eat fish, habits unshared by the affected tribes. Malaria, schistosomiasis and amebiasis and other infestations are rampant in the areas where kwashiorkor exists. Early symptoms of this disease include apathy, edema, umbilical hernias, potbellies and, later, changes in hair and skin. The normally curly coarse peppercorn hair becomes straight, fine, thin, and reddish yellow. Tufts of alopecia appear. The normally jet black skin of the native becomes reticulated. It peels, and a patchy black and white surface remains. The skin looks like black paint which has flaked off woodwork. The salivary and lachrymal glands enlarge. The tongue becomes edematous, smooth, and easily indented. Peristalsis is increased and the affected natives have greasy slimy stools. The pancreas is involved. Occasional xerophthalmia is noted and rarely, rachitic manifestations. Other findings include anemia, neurologic changes, similar to those of beri-beri, and paraesthesias. Laboratory studies reveal a very low serum albumin and often a macrocytic or a normocytic anemia. These people usually die of acute dysentery, tuberculosis, or pneumonia. In endemic areas this disease is not extremely common but mild forms are frequently seen and residues of the disease are noted in many adults. Residues include especially cirrhosis of liver in many but not all tribes. Hepatomas are common. Other late manifestations include carcinomas of the male breast, salivary gland and reticulo-endothelial system, including Hodgkin's disease. There is a definite tendency to feminization of the male with gynecomastia. Hemosiderosis is commonly present. The cirrhosis is believed related to the type of secondary infestation. To us the most interesting aspect of this condition is the late cirrhosis of the liver. We would like to compare the cirrhosis of kwashiorkor with the Laennec's cirrhosis seen in the United States. It is felt by many that alcoholic cirrhosis is a purely nutritional disease. We question this. We believe that alcohol and its metabolic products

might have an effect similar to that of schistosoma infestation when superimposed on a nutritional fatty liver. Further histologic study of these cases might help to elucidate this point. Dr. Pirani is at present making such a study and will elucidate his findings.

Dr. Conrad L. Pirani: Cirrhosis of the liver is an intriguing clinical and pathologic entity. On examining a given liver section one often cannot say whether the cirrhosis is atrophic (alcoholic), post-necrotic, or biliary in origin. Recently through the courtesy of Dr. J. N. P. Davies, Pathologist at Kampala, Uganda, we have been able to study histologically the tissues from a number of autopsies as well as several liver biopsies from patients with Kwashiorkor.

In children under five years of age we have noted fatty infiltration of the liver localized quite regularly in the peripheral portion of the lobules. The Kupfer cells especially in the areas of fatty metamorphosis contained granules that appeared to be malarial iron pigment. The spleens were enlarged with malaria. The pancreas exhibited atrophy and disorganization of the acini; the islets of Langerhans were prominent. The G.I. tract was not remarkable. As the disease progresses, the fatty changes reach the center of the lobule. In children more than five years of age the fatty degeneration appears much more severe, the number of lobules affected is increased and there is perilobular fibrosis. With the progress of the cirrhotic process, the fatty infiltration diminishes. This is quite comparable to what we think is the normal process of development of alcoholic cirrhosis in the United States. In the older age groups necrosis of the lobules appear in some areas resembling the early stages of toxic cirrhosis seen here. Histologically, there is only a limited hepatic cell regeneration but the incidence of carcinoma of the liver in these patients is quite high. There are also changes in the skin and kidney. The skin shows follicular keratitis and atrophy of the collagen. There is increased cellularity of the renal glomeruli. The spleen shows malarial pigment as well as hemosiderin.

Several intriguing questions are raised by this study. (1) Are the pancreatic changes a primary factor or are they a consequence of the fatty liver? Certainly the diarrhea which these patients have seems to be of pancreatic origin. The large islets of Langerhans are perhaps correlated with a failure of the liver to store glycogen. (2) What is the role of the pigment in the production of fibrous tissue? We do not have the answer to these questions.

Dr. Kark: Co-existent findings of cirrhosis and pancreatic calculi have been noted in alcoholics. In these cases, 30 to 60% of the stool is fat.

Dr. Emanuel Farber, Hektoen Institute: In Dr. Popper's laboratory we have been interested in the effects of ethionine and methionine on the liver. Ethionine will produce a reversible fatty infiltration of the liver and we have also noticed along with it diffuse fatty necrosis of the pancreas, very similar to that shown to us by Dr. Pirani in the cases of kwashiorkor. There is a dilatation of the ducts and an inspissation of eosinophilic material. If the changes are very acute there is a vacuolization with some acinar cell degeneration. Phosphorus intoxication is also characterized by fatty degeneration of liver and pancreas. Is this condition the proximal convoluted tubules of the kidney are also involved.

Carroll L. Birch, M.D., Professor of Medicine: Are leg ulcers characteristically seen in this condition? In my experience going through the Congo and the Cameroon, most of these individuals have had leg ulcers. I should also like to report the story of one native who had liver involvement with marked ascites for whom the missionary doctors had been of little benefit. After treatment by native herbs of an unknown type, his ascites disappeared.

Dr. Kark: As far as the leg ulcers are concerned they do not occur in Uganda. It has been reported that they are seen in some cases of kwashiorkor in India. We would certainly like to know what was contained in the native herbs.

Dr. M. M. Montgomery, Assistant Professor of Medicine: Do you have any idea why hepatomas are found in an inordinately large percentage of Bantus (African natives) with cirrhosis?

Dr. Kark: The hepatomas in the tropics appear to be related to bilhariza with an associated nutritional deficiency. The pigmented people seem to be prone to hepatomas. We have not

(*Continued on page 297*)

Methemoglobinemia in Infants

Springfield
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Shortly after Comly's[1] report of two cases of methemoglobinemia in young infants resulting from the ingestion of water containing excessive amounts of nitrates, it became apparent that this condition may have been the explanation of the cyanosis in a number of cases which we previously suspected of having congenital heart disease, intracranial hemorrhage, abnormalities of the respiratory tract, or even enlarged thymus. Once our attention was focused on this possibility as a causative factor in cyanosis, we were surprised at the relative frequency with which it occurred. The purpose of this paper is to present a group of 25 such infants who were admitted to the Springfield hospitals during a period of approximately two years.

Because of the similarity of the histories, physical findings, and subsequent course of these patients, no attempt will be made to present individual reports. Instead, there will be a resumé of the average case, with a detailed report of one of the more unusual ones and those of the two babies who did not survive.

The first point is that all of these infants came from rural homes in which a well, in most instances an unsatisfactory one, was the source of the water. The second point is that all of these babies were on artificial milk formulas, either evaporated or a powdered form of milk. In all instances, birth history was within normal limits, and although a number of the babies were breast fed for varying periods, within a matter of several weeks, breast feeding had proved inadequate. The first symptom noted in all cases was cyanosis, which as a rule was gradual in its onset with progress in degree varying, though in several instances the cyanosis apparently appeared suddenly, approaching alarming proportions rapidly. Diarrhea was absent in the larger number of the patients, as was fever. Respiratory distress was noted frequently. After the first several cases, the diagnosis was made fairly quickly. The treatment varied. A number of the babies were given oxygen and nothing else. In several instances intravenous methylene blue was administered with dramatic results. Oral methylene blue was used a few times. We did not employ ascorbic acid.

Baby S. was first seen at the age of two months. He had been entirely well until the afternoon of admission, at which time blueness of the lips and rapid respirations were noted. The baby was given oxygen, but without apparent help. On crying, his color became a jet black, which cleared to a slate grey, when the patient was quiet. Birth history was normal. The baby was receiving an evaporated milk formula, prepared with water obtained from the family well. The interesting point about this child, is the fact, that on the day the cyanosis was noted, the parents had taken the baby to visit the grandparents at a nearby farm. The formula for that day was prepared with water obtained from the grandparents' well. The nitrate content of the water from the home well was found to be 137 parts per million; that of the grandparents' contained 1050 parts nitrate per million. In this instance, the baby was apparently able to tolerate the contaminated water with the lower nitrate content, but manifested severe methemoglobinemia after taking a relatively small quantity of the water containing the unusually large amount of nitrate.

Of the two patients in this series who died, Baby F. was an 18 day old infant, who had had a normal delivery. Breast feeding was attempted for about a week but was unsuccessful, and an evaporated milk feeding was started before hospital discharge. The course was then without concern until about twelve hours before re-admission. At that time, blueness was first noted with rapid progression in degree, and difficult

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respirations. Soon after the onset of symptoms, a local physician made a diagnosis of enlarged thymus. By the time the baby was brought to Springfield, he was extremely cyanotic and the respirations were gasping in character. Venous blood was found to have a deep chocolate coloration. Oxygen and stimulants were of no avail. Death occurred before methylene blue could be given. It is interesting to note that this family had lost another young infant just over a year ago. The history in that instance was identical with that of this patient. The cause of death then was thought to be hypertrophy of the thymus gland. Post-mortem findings in our patient showed all the internal organs to be a chocolate brown color. The heart was markedly dilated and filled with chocolate brown blood. Analysis of the water used for the baby's formula showed that it contained 135 parts of nitrate per million.

Baby E. was first seen at the age of 46 days. Again, birth history was normal. Breast feeding was not attempted and a powdered milk formula was used. Water for the feeding was obtained from an old well located in close proximity to the barn. At the age of three weeks cyanosis was noted. This cleared up following admittance to a hospital where oxygen was administered. Subsequently, the baby was discharged after receiving x-ray treatment for an enlarged thymus. About ten days later the cyanosis recurred, and again the child was hospitalized and treated for hypertrophy of the thymus. Once again, at the age of 44 days, cyanosis returned and became progressively more intense. The baby was brought to Springfield after 48 hours in a critical condition. The skin color was blue black and respirations were extremely shallow and irregular. While methylene blue was being prepared, respirations ceased, but returned with stimulation and artificial respiration. Methylene blue was then given intravenously with apparent improvement in color. However, this was temporary and within a short time the patient expired. The post-mortem findings were similar to those previously described. The nitrate content of the well water was found to be 350 parts per million.

COMMENTS

Although there have been several reports in the literature of cyanosis due to methemoglobinemia of unknown cause, the case recorded by Rector and Schwartz in 1942 was perhaps the first, which in retrospect, must have been an instance of nitrate poisoning, resulting from the ingestion of contaminated well water. Since Comly's paper, further reports have been published—Ferrant[2], in Belgium; Faucett and Miller[3], from Kansas; Medovy, Guest and Victor[4], in Winnipeg and Donohoe[5] from South Dakota, suggesting that this condition is not peculiar to any locale, but may occur anywhere that contaminated well water is used for preparation of infant formulas.

It has been stressed, that the very young infant is the most likely to develop significant methemoglobinemia from this cause. With this in mind, it is interesting to note that several of our patients were in the two month age group, and one baby was 82 days old at the time of hospital admission. Of necessity, the age given is that of hospital admission, although it is recognized that the presence of cyanosis must have been noted for a varying time, preceding hospital entry. The youngest patient in this group was 14 days of age, with the larger number falling into the 3-4 week old level.

The relationship of the quantity of nitrate present in the water used by the patients in this series, to time of onset and degree of symptoms, was not completely definite. Nitrate determinations were made in all of our patients with a marked variation in the total amounts recorded. The lowest figure was found to be 99 parts per million with the highest 1050 parts per million. Comly's report mentions a survey of some 2000 Iowa farm wells by the Iowa State Planning Board, showing a varying nitrate content from zero to 125 parts per million. The standards of safety set by the U.S. Public Health Service allows for not more than 10 parts nitrate per million. Water containing 10 or more than 15 or 20 parts nitrate per million is considered potentially unsafe for infant consumption.

Methemoglobinemia may follow the administration of such chemicals as analine, nitrophenol, sulfanilamide, potassium chlorate and nitrates. That nitrates may be associated with serious or fatal methhemoglobinemia in infants has been realized since bismuth subnitrate first was used as a constrast media by roentgenologists. Roe[6] in 1933 reported the death of a one month old infant with diarrhea who had received 0.6 grams of bismuth subnitrate every two hours, until the stools became black. Cy-

anosis occurred in 24 hours. Thirteen grams of the drug was given in 44 hours, and despite oxygen therapy, death occurred 60 hours after the drug was first administered.

Nitrate methemoglobinemia in adults has been reported less frequently. Eusterman and Keith[7] administered ammonium nitrate orally for diuretic purposes to a large series of adults. Two patients developed methemoglobinemia. In one, extreme cyanosis occurred when 54 grams was given over an eight day period. These workers gave ammonium nitrate intravenously to dogs and failed to produce methemoglobinemia. They concluded that the nitrate ion was transformed to nitrite by some abnormal metabolic process present in the two patients, both of whom had intestinal stasis.

Van den Burgh[8] in 1905 indicated that nitrites could be formed in the intestinal tract from nitrates and that the absorption of the nitrite ion was encouraged by the presence of damaged intestinal muscosa. Comly suggested that the nitrate ion was probably converted to the nitrite form in the intestine by bacterial action. The nitrite ion, so formed, was absorbed and reacted with hemoglobin to form methemoglobin. Medovy, Guest and Victor offer the following explanation: when nitrates are ingested or produced in the intestinal tract, they are not absorbed but are reduced to nitrites, and then to ammonia and excreted as such. In the presence of greatly increased quantities of nitrates, such as follows the ingestion of drugs or of water with a high nitrate content, it is possible that the nitrites have insufficient time to be completely reduced and so reach the circulating blood and thus form methemoglobin.

More recently, Cornblath and Hartmann[9] have been able to demonstrate that factors other than the quantity of nitrate ion ingested by young infants are instrumental in producing cyanosis. Giving as much as 100 mgm. of nitrate ion per kilogram to a group of four infants failed to produce cyanosis. However, in the presence of nitrate reducing bacteria in the upper gastro-intestinal tract as was evidenced in the babies who had previously developed methemoglobinemia, cyanosis readily occurred. They concluded that only infants who have a gastric pH higher than 4.0 and nitrate reducing bacteria in the upper gastro-intestinal tract develop methemoglobinemia from oral ingestion of water containing nitrates.

It seems apparent, from our observations that the quantity of nitrates ingested must play an important part, both in the initial occurrence of the cyanosis, and probably the degree of cyanosis. It is further likely that the nitrate reducing bacteria are introduced into the gastro-intestinal tracts of these infants by the ingestion of the contaminated water, and the greater the numbers of such bacteria the more severe will be the cyanosis, perhaps because the conversion of nitrate to nitrite occurs at a more rapid rate. The presence of a favorable gastric PH must be a necessary accompanying factor.

A noteworthy finding in our series, was the fact that the frequency of cases decreased considerably during the second year. This, we are certain, is in no small degree a result of the efforts and interest of the Division of Sanitary Engineering of the Illinois Department of Public Health. Following the discovery of the relationship of ingestion of contaminated well water and the production of cyanosis, a total of 5660 samples of water[10] from private water supplies of all types and from all sections of the state were examined for nitrate content. Of these, 20 per cent had a nitrate nitrogen content of more than 10 parts per million. This total included a large number of samples of low nitrate content from the Northeast quarter of Illinois, where rural water supplies are generally obtained from drilled wells in the glacial drift or from limestone formations. In the rest of the state, where most rural water supplies are obtained from relatively shallow dug or driven wells, waters with toxic amounts of nitrate were found to be more common. In Sangamon County, more than 40 per cent of the waters from rural wells contain more than 10 parts per million of nitrate nitrogen, and 25 per cent contained 100 parts per million or more of nitrate. This finding must explain the relatively large number of cases occurring in our area.

SUMMARY

Twenty-five cases of methemoglobinemia in young infants due to the ingestion of well water containing a high nitrate content are reported. These cases are actually cases of nitrite poisoning.

There were two deaths, a mortality of 8 per cent. The histories of these two cases strongly

suggest that an earlier, correct diagnosis would have prevented these fatalities.

Treatment consisted of oxygen therapy. I. V. administration of methylene blue, in the dosage of 1.0 - 2.0 mg. per kilogram. Oral methylene blue was given in several patients.

The frequency of this condition was found to be decreased in the second year of this study.

The poor quality of the wells in the Sangamon County area, as shown by nitrate content determination of samplings, by the Illinois Dept. of Health, probably accounts for the relative frequency of the problem in this area.

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DISCUSSION

Dr. Eugene T. McEnery, Chicago: This is one of the queer things which comes up now and then and you wonder why babies are blue? In the Chicago area, we have had in the past year two cases at the Children's Hospital in which babies were blue. They weren't blue from the fact that they had had water from contaminated wells but they were blue from the fact that they had had bismuth subnitrate in a diarrhea preparation. It is rather amazing how quickly this condition comes on. Two children had only had a medication, I think, of three doses. These babies when admitted had cyanosis which looked little different from a congenital heart condition, and responded very well to the treatment Dr. Eveloff outlined. We have to keep in mind that this can occur from very, very small amounts of nitrate in medication or in the water.

It certainly is very interesting to know that this subject is being carried to the communities in which they may have wells that have a high nitrate content.

Is there anybody who cares to discuss this paper or to add anything to it?

Dr. A. R. Evelhoff: Blood methemoglobin determinations were done in several of our cases. The results obtained varied from seven to fourteen percent. The latter level was the highest obtained despite the fact that the degree of cyanosis in these babies was very severe. These findings were not in keeping with those reported by other workers.

Kwashiorkor — And Cirrhosis of Liver (cont.)

noted hepatomas occurring in our white cirrhotics.

Dr. Montgomery: Ten years ago at the Cook County Hospital 54 cases of carcinoma of the liver were studied out of a total of 13,000 autopsies. Most of these were on white people. In the Chinese hepatomas appear to be related to the liver fluke.

Dr. Pirani: South African cirrhosis seems to be somewhat different from that observed in kwashiorkor. There is a greater deposit of iron pigment, not necessarily malarial, deposited and a much higher incidence of carcinoma.

Dr. M. Samter, Assistant Professor of Medicine: Is hemosiderosis common in all African natives?

Dr. Kark: It appears to be common in South Africa. It is probably related to the quantity and balance of calcium and phosphorus ingested. These natives eat a relatively high phosphorus diet.

CASE RECORDS OF THE COOK COUNTY HOSPITAL

KARL MEYER, LEO M. ZIMMERMAN, DEPT. EDITORS

Familial Hereditary Hemorrhagic Telangiectasia in the Negro

Report of a Second Case

William H. Kleinschmidt, M.D. and Steven O. Schwartz, M.D.
Chicago

In 1948 we reported a case of familial hereditary hemorrhagic telangiectasia (Rendu-Osler-Weber disease) in the Negro.[1] A second case has recently been observed by us, emphasizing the fact that the frequency with which unusual conditions are found is in direct proportion to the diligence of the search for them.

At the time of her first hospital admission to the Cook County Hospital on October 7, 1939, the patient was 26 years old. She had had epistaxes once or twice a week since childhood. These had increased in the preceding two months so that they were occurring once, and occasionally twice, daily. For two weeks she noted low back aches mostly at night, a dull aching pain over the precordium especially with deep inspiration, and right temporal headache occasionally releived by the epistaxes. Of further interest in her story were the findings of bright red blood in the stools with prolonged epistaxes; dyspnea, ankle edema and heart consciousness on occasions; a recent loss of 20 pounds; and "shots for bad blood" in 1930.

She was a well developed negro female, not acutely ill. Temperature 99.2°F., pulse 108 and regular, respiration 24, blood pressure 134/80. Fresh blood was flowing from the nasal septum. Hemorrhagic areas were seen on the back of the tongue. The left heart border was one cm. outside the mid-clavicular line at the sixth interspace, and a systolic murmur was heard at the apex. A few days after admission "petechiae" were found on the tongue, pharynx and conjunctiva.

Urinalysis was negative except for a + albumin. Erythrocytes numbered 3.51 million, hemoglobin 57% (8.8 gm.), leukocytes 5,000;

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Aided by grants from the Edward Friedman Foundation, Olivia Sue Dvore Foundation, and the Wilson Laboratories, Chicago.

neutrophils 44%, eosinophils 2%, lymphocytes 51%, and monocytes 3%. The red cells showed slight polychromatophilia, hypochromia, anisocytosis and poikilocytosis. Bleeding time was three minutes. The Rumpel-Leede test, an electrocardiogram, the blood non-protein nitrogen and the Kahn test were all normal. Two blood cultures revealed no growth. Roentgenogram of the chest was normal except for a slight increase in hilar markings. The diagnostic impression was rheumatic heart disease, with a possibility of a complicating subacute bacterial endocarditis or thrombocytopenic purpura. She was discharged on October 18, 1939 with a diagnosis of rheumatic heart disease.

On November 2, 1944 she was readmitted to the hospital with an Admitting-Room diagnosis of luetic heart disease. She complained of pain in the chest, vertigo, epistaxes, dyspnea, orthopnea, palpitation and ankle edema for a month. Weakness and occasional headaches began three weeks before admission. Three days before admission she developed nausea and vomiting. Bright red blood was again noted in the stools whenever she had epistaxes, but the menses remained normal. There was also nocturia for a few weeks, and she had stopped smoking and drinking because she "couldn't stand it anymore." There was an eight pound weight loss in four weeks.

A chronological history taken at this time revealed the following: born a "blue baby" in Alabama; mother died postpartum; had epistaxes almost every day until the age of five or six and remained pale; confined to bed for three months with "rheumatism" at the age of eleven; came to Chicago at fourteen, after her father, who had a history of epistaxes all his life, died of a "bad heart." By now the epistaxes had decreased to once or twice a month. She married at eighteen, had no pregnancies, and lost her husband in a train accident. Headaches and occasional vertigo developed at 21. At 25 her epistaxes began increasing, and became so severe that she lost about a cup of blood each day.

At this time she was slightly dyspneic, her pulse was 120 and blood pressure 126/0. "Petechiae" were noted in the left lower conjunctiva. The heart was normal in size and a systolic murmur was present at the aortic, pulmonic and apical areas with a questionable diastolic murmur at the aortic area. The liver was one to two fingerbreadths below the right costal margin in the mid-clavicular line.

The erythrocytes now numbered 1.04 million, the hemoglobin 10% (1.5 gm.), leukocytes 6,100. The epistaxes continued and she was given 500 cc. blood two days later and placed on iron therapy. Four days after admission the blood pressure was 130/65, the murmurs were less intense and no aortic diastolic murmur was audible. "Petechiae" were seen in the right lower conjunctiva six days later. Rheumatic heart disease, possibly with subacute bacterial endocarditis, or thrombocytopenic purpura were again considered. Another 500 cc. blood was given on November 8, 1944. Free acid was found in the gastric contents only after the administration of histamine. There was an increase in the size of both ventricles. The aorta appeared widened. An electrocardiogram revealed low voltage and a left axis shift. Blood cultures repeatedly failed to reveal growth of organisms.

Two weeks after admission the rhinologist reported bleeding from dilated vessels in Little's areas bilaterally. These were cauterized. At this time she had 2.85 million erythrocytes, 41% (6.3 gm.) hemoglobin, 8,000 leukocytes, and 1,469,800 platelets. The marrow revealed an increase in megakaryocytes, a nucleated RBC:WBC ratio of approximately 3:1, normoblastic erythropoiesis with a left shift and normal granulopoiesis. The mature red cells were filled with hemoglobin and tended to be macrocytic. These findings were interpreted as being compatible with long continued bleeding and an iron deficient state under treatment. By the end of the fourth week the values were: 3.45 million erythrocytes, and 55% (8.5 gm.) hemoglobin.

She was discharged on December 5, 1944 with the diagnoses of rheumatic heart disease and hypochromic anemia.

Her third admission to the hospital, on April 4, 1950, was necessitated by cough, dyspnea, ankle edema and increasingly severe epistaxes during the preceding two weeks. The epistaxes had been becoming progressively more severe during the three years past, and two weeks before admission she developed a "cold" which aggravated them. Hemoptysis and hematemesis now accom-

panied the epistaxes. She "filled a wash basin with blood" at the onset of her "cold" and on the day before her admission to the hospital. Her headaches, which were occipital, were more frequent than on the last admission. She complained of poor hearing which she attributed to a "roaring" arising in her neck. Tinnitus occurred between the episodes of "roaring." The tongue had gotten sore lately.

She was still well developed, moderately obese, weak, quite pale, but comfortable. A one to two mm. sized bright red area was found on the index finger of the right hand just distal to the metacarpophalangeal joint. Similar bright red areas were present on both anterior and posterior aspects of the tongue and the mucous membrane of the nose and mouth. These areas, which had always been interpreted as petechiae, were bright red, blanched on pressure, and were occasionally seen to pulsate under a glass slide. They had the typical appearance of telangiectases. The heart was enlarged and a grade III systolic murmur was heard over the entire precordial area, loudest at the apex. A few scattered inspiratory wheezes were heard over the lungs. The liver edge was six cm. below the costal margin. Pelvic and rectal examinations were negative.

Blood findings on this admission were: erythrocytes 1.24 million, hemoglobin 15% (2.3 gm.), leukocytes 14,700, neutrophils 78%, bands 6%, eosinophils 1%, basophils 1%, lymphocytes 12% and monocytes 2%. The erythrocytes were moderately hypochromic, anisocytic, poikilocytic and polychromatophilic. Bleeding and coagulation times were normal. Urinalysis, Kahn test and Rumpel-Leede tests were negative. Roentgenograms of the chest revealed the heart size to be increased both to the right and left. The blood non-protein nitrogen was normal; cephalin flocculation negative; thymol turbidity 1.8 and 1.9 units; gamma globulin 0.68 and 0.84 gm.%; albumin 3.3 gm.; globulin 1.9 gm.; cholesterol 143 and 157 mgm.; alkaline phosphatase 3.8 and 4.4 units; icterus index 5.

She was given blood, iron and Rutin, and was discharged two weeks later.

She was next seen as an out-patient on May 5, 1950. The telangiectases had increased in number, now being present on the right conjunctiva, both lips, most of the fingers, and the palm of the right hand. Fresh blood was present on the nasal septum but she denied nosebleeds since being discharged from the hospital. Her hematologic improvement was marked, the erythrocytes numbering 4.49 million and the hemoglobin 72% (11.2 gm.).

DISCUSSION

This is the second case of familial hereditary hemorrhagic telangiectasia to be described in the Negro. It is of particular interest that the diagnosis was not established, in spite of a typical history and findings (recurrent bleeding, multiple telangiectases and suggestive history in the father) until her third admission. The telangiectases, though seen, were thought to be petechiae on the first two admissions. The cardiovascular and systemic findings, undoubtedly largely due to anemia, together with the bleeding history and the telangiectases mistaken for petechiae, led to the erroneous diagnoses of rheumatic heart disease and/or thrombocytopenic purpura on two admissions. The possiblity of a coexisting mitral regurgitation, in view of the history of rheumatic fever and the physical findings cannot be unequivocally dismissed. The high pulse pressure and the questionable diastolic aortic murmur on the second admission were at first interpreted as being due to aortic regurgitation, luetic or rheumatic, but when the blood pressure and murmurs changed, this hypothesis was dismissed. The history of bright red blood in the stools suggests the possibility of telangiectases in the lower gastrointestinal tract, although it may have represented swallowed blood.

As has been previously pointed out[2] the question of racial purity or Caucasian admixture is entirely inconsequential in the interpretation of this problem.

SUMMARY

The second case of hereditary hemorrhagic telangiectasia occurring in the Negro is described. In view of the fact that the first case was seen within just a few years, it may well be that this is not as rare a disease in the Negro as was previously thought. It is of interest that the diagnosis was not made until the third hospital admission, in spite of a typical history and findings.

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CASE REPORTS

Maternal Pulmonary Embolism By Amniotic Fluid

Charles Newberger, M.D.
Chicago

The work of Steiner and Lushbaugh[1] in 1941, directed attention to the occurrence of pulmonary embolism by the particulate matter contained in amniotic fluid. They established the entrance of this material to the maternal circulation as a distinct pathological entity. To the eight cases they reported, they added two more in 1942[2]. Since then there have been published nine additional cases: three by Gross and Benz[3], and one each by Hemmings[4], Goodof[5], Watkins[6], Wyatt and Goldenberg[7], Shotton and Taylor[8], and a possible non-fatal case by Seltzer and Schuman[9].

The present case, reported by permission of the attending physician, is the twentieth on record:

The patient, 40 years old, gravida IV, para II, was scheduled for delivery on July 1, 1948. She had two living children, 4 years and 6 years old, and in 1946 had a spontaneous abortion of a twin pregnancy.

During the present gestation she was seen first at the seventh week, and then at twelve revisits. Wassermann was negative, urine was negative, blood pressure was normal; there was a weight gain of twenty pounds. X-ray two weeks before term showed the fetus in a transverse presentation. By external version, this was changed to cephalic presentation.

On July 1, 2 p.m., patient entered the hospital, not in labor, but because of her worry at being "overdue." X-ray reported a term infant, in occiput left anterior position, with head not engaged. Temperature was 98.2°, pulse 80, respiration 20, blood pressure 102/78, fetal heart tones 128. Medical induction was instituted at 4 p.m.: 5 grains of quinine hourly four times, followed by pituitrin every thirty minutes — two doses of one minim each, and six doses of two minims

From the Division of Maternal and Child Health, Illinois Department of Public Health.

Presented at a meeting of the Chicago Gynecological Society, May 20, 1949.

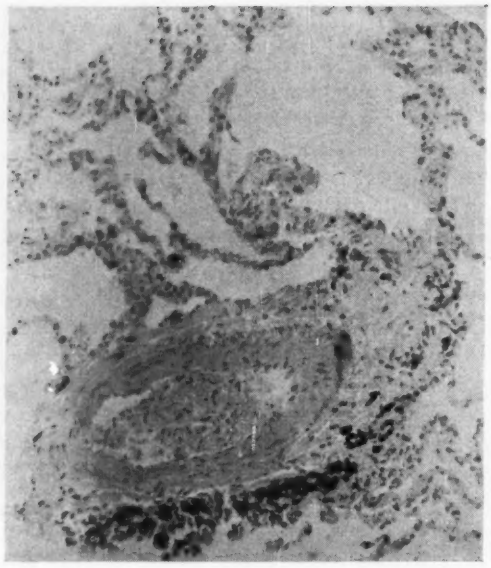

Figure 1. Branch of pulmonary artery showing almost complete occlusion of lumen with masses of clumped hornified squamous epithelium. Low power.

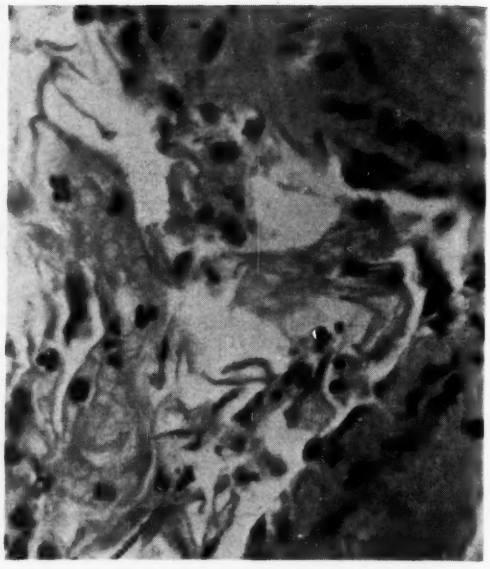

Figure 2. Lumen of branch of pulmonary artery with isolated and clumped squamae. High power.

each, the last dose being given at 11 p.m. Irregular contractions began July 2, 12:50 a.m., and by 1:30 a.m., they were at five minute intervals. At 2:15 a.m., the membranes ruptured; there was a large amount of dark, bloody discharge, and the patient was nauseated.

At 2:45 a.m., she had sudden twitchings of the arms, and became very cyanotic. She was given oxygen, coramine, adrenalin into the heart, and artificial respiration, but death occurred at 3:00 a.m., thirteen hours after admission to the hospital, two hours and ten minutes after the onset of labor, and fifteen minutes after the appearance of twitchings of the arms. At 3:05 a.m., a postmortem midforceps operation was done, with the extraction of a living seven pound seven ounce male infant.

A complete autopsy was done. Of interest are the lung findings: Grossly, there was no crepitation, no consolidation, no edema, no hemorrhage, nor were air bubbles recognized; in the visceral pleura, around the base of the heart, were pin-point asphyxial petechia. Microscopic sections from blocks of lung tissue, prepared by Doctor I. Davidsohn of Mount Sinai Hospital, Chicago, showed the lumen of many arterioles and capillaries filled with epithelial squamae, mucus, amorphorus debris, and blood cells, characteristic of the composition of emboli due to liquor amnii.

DISCUSSION

A positive diagnosis of this obstetric complication depends on the microscopic demonstration in the smaller pulmonary vessels of emboli composed of the particulate matter of amniotic fluid. Helpful information in making the clinical diagnosis is suggested by a review of the twenty cases now on record:

1. It was more common in women of older age, — 8 of the patients were 35 years or older.
2. Multiparity was noted in 15 women.
3. The pregnancies were uneventful in 9 out of 11 cases where this information was available; one patient had 2+ albuminuria, and the other had a blood pressure of 170/120.
4. Hard labor was present in 12 cases, the contractions being designated as "severe," "violent," "powerful," "strong," "tetanoid." In another instance, a ruptured uterus was found at autopsy.
5. The character of the amniotic fluid on rupture of the membranes was given in seven cases: of these it was normal in only one instance, and

in 6, there was either blood and/or meconium.

6. The infant weight was above average. Out of 8 babies where the birth weight was recorded, 7 were from 8 pounds to 12¼ pounds. This fact may also suggest the possibility that pregnancy was of longer than normal duration.

7. Only 7 infants were born alive.

8. The onset of untoward symptoms was sudden and unexpected: in 6 cases during labor, and in 14 just after the delivery.

9. Profound shock was present in each case, with the following signs and symptoms listed according to their stated frequency: cyanosis, dyspnea, imperceptible pulse, restlessness, vomiting, chill, low or unobtainable blood pressure readings, rales, twitchings, and delirium.

10. The survival time after the onset of shock was from 5 minutes to one hour in 8 cases, from one hour to 5 hours in 8 cases, 8 hours in one, 11½ hours (?) in one, and 7 days in one case where the embolism probably was a contributing rather than the primary factor.

SUMMARY

A case of sudden death during labor due to pulmonary embolism by amniotic fluid is reported. Reference is made to 19 other cases in the literature, one of which was non-fatal. Findings in the 20 cases are reviewed which should be of help in making a clinical diagnosis of this rare obstetric complication.

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Actinomycotic Brain Abscess

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This report is presented to exemplify the interrelations of pleuropulmonary actinomycosis and brain abscess. The interesting features are the complete recovery of the cerebral lesion following surgical attack and the marked resolution of the pleurisy under chemotherapy. This is the second case in the literature as far as we have been able to determine. A report by Schnieder and Rand[1] of recovery following complete excision of an actinomycotic brain abscess was the first case ever reported. Jacobson and Cloward[2] were the first to report a case of actinomycotic meningitis due to the acid fast aerobic nocardia asteroides that recovered with penicillin therapy.

J. H., a 55 year old white male of Greek extraction was first seen in the clinic on April 30, 1948 complaining of pain in the right upper quadrant of the abdomen, radiating to the chest, of one year duration. Two weeks prior to admission it had become increasingly severe and had caused anorexia, weakness and weight loss. The physical examination revealed dullness to percussion and diminished breath sounds over the posterior and axillary aspects of the right lower chest. There was resistance and tenderness in the right upper quadrant and a slightly enlarged nodular liver. Fluoroscopy and x-ray of the chest showed an elevated and fixed right diaphragm, diaphragmatic and parietal pleural shadows indicative of fluid and patchy infiltrations

1. Actinomycotic Brain Abscess, Complete excision with recovery. Schneider and Rand. Jour. Neurosurgery 6,255 May 1949.

2. Actinomycosis of Central Nervous System. Case of Meningitis with recovery. Jacobson and Cloward. JAMA 137,769 June 26, 1948.

From the Neurosurgical and Chest Services, Michael Reese Hospital, Chicago, Illinois.

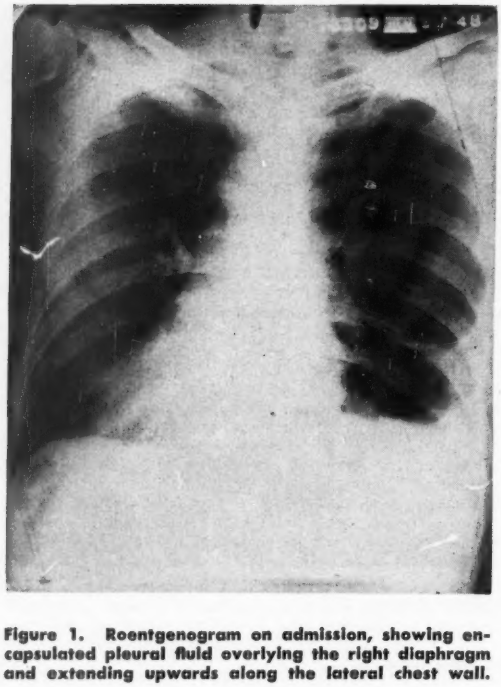

Figure 1. Roentgenogram on admission, showing encapsulated pleural fluid overlying the right diaphragm and extending upwards along the lateral chest wall.

in the right lower lobe. (Figure 1.) , The diagnoses entertained were bronchogenic carcinoma of the right lung, chronic suppurative pneumonitis; lower lobe tuberculosis, and echinococcus cysts of the liver rupturing into the lung.

Four days later on his admission to the chest service of Michael Reese Hospital the findings were essentially unchanged except that he appeared drowsy and mildly incoherent. His temperature was 101.2, pulse 96, respirations 22, and the blood pressure was 130 systolic and 70 diastolic. There were no localizing neurological findings. On the morning of May 6, 1948 he was found comatose and could not be aroused. Later in the day he developed nuchal rigidity and tachycardia. The blood studies revealed hemoglobin 11.4 gms., red blood cells 4,000,000, and white blood cells 26,500. The blood urea nitrogen was 24 mgm. per cent. The urine was negative for albumin and sugar and no barbiturates were found upon chemical examination of the urine. The spinal fluid was cloudy, the pressure was 290 mm. water and after withdrawal of 3 cc it was 230 mm water. The cell count was 8 red blood cells and 3,980 white blood cells. The electrocardiogram showed "a rate of 200, regular, no P waves, S-T depressed in chest and limb leads, QRS up in leads one and two, and small and polyphasic in lead three. Low voltage; supraventricular paroxysmal tachycardia, and left axis shift. Definitely abnormal curve."

The following treatment was given: Crystalline penicillin 300,000 units twice daily; sodium sulfadiazine 2½ gms. intravenously followed by 1 gm. every four hours orally; streptomycin 250 mgm. every six hours. Following the administration of acetylocholine the pulse rate dropped to 120 but showed some irregularity. Quinidine grains 3 was then given every two hours until the rhythm became regular, followed by a maintenence dose. On the evening of May 6 nuchal rigidity became more marked, and suggestive Kernig and Brudzinski signs appeared, but no localizing signs. A portable x-ray of the chest suggested possible increase in the pleural effusion in the right lower chest. Aspiration, however, revealed no fluid but an extremely thickened pleura which was difficult to penetrate with the needle. On May 7 he was out of coma and rather alert; later in the day he complained of headache for the first time. On May 8 he was stuporous again and he could be aroused only by shaking. The nuchal rigidity was unchanged. The Kernig and Brudzinski signs were definite. The culture of the spinal fluid was negative after 48 hours. The neurological consultant reported the following: "The upper extremity deep reflexes are more brisk on the right than on the left. There is a definite plantar response on the right. There are no pathological reflexes. The right abdominal reflexes are present but are absent on the left. The patient is confused, and a detailed sensory examination is impossible. The facial movements seem symmetrical except for slight decrease in the left lower face. The pupillary findings are normal; the fundi are not visualized. Impression: A confused person with evidence of meningeal irritation and perhaps a right cerebral lesion, most likely non-infectious. One must consider the possibility, first, of a metastatic abscess, or a tumor from a pulmonary source."

On May 9 the neurological consultant reported the following: "Eyes showed no nystagmus; the movements were free and the pupils reacted to light. The fundi showed no papilledema.

Apparently a left hemianopsia is present. There is motor disturbance on the left side: it takes much longer to initiate movements with the left than with the right extremities. The movements of the left leg are weaker than those of the right leg; when it is raised passively it falls down. Impression: This is a process in the right half of the brain, probably in the parieto-occipital region."

On May 10 a spinal tap showed pressure of 290 mm water. Two cc were withdrawn with no drop in pressure. Red blood cells 1 to 2, white blood cells 231, Pandy was three plus, Ross-Jones was positive. On May 12 white blood count was down from 26,000 to 15,700. The temperature for the past four days had not been higher than 101.2. The skin tests performed with coccidiodin, blastomycin, O.T. 1-1000 and histoplasmin were all negative except for the O.T. which was positive one plus.

On May 13 the patient was again comatose and could not be aroused. His temperature was 99.6 to 100. The spinal tap showed cloudy, yellowish fluid and the initial pressure was 350 mm. water; the red blood cell count was 15 and the white blood cells count was 6,750; Pandy was four plus, and the Ross-Jones was positive. On May 14 the neurosurgical consultant concurred in the opinion that a space occupying intracranial lesion existed, and that an emergency craniotomy was indicated.

On May 15 an operation was performed under local infiltration. A subtemporal approach was made. The subtemporal bone was exposed and an opening was made approximately the size of a silver dollar. The brain was seen to be under tension. A small opening was made in the dura and a trocar was used to explore. At a depth of 5 cm. in the parietal lobe a large purulent abscess cavity was entered. Approximately 40 cc of pus was obtained. The cavity was filled with penicillin and rubber drain inserted. The incision was left open with iodoform gauze pack. The patient made an uneventful post-operative recovery. No residual, motor or sensory loss was evident. He continued to receive crystacillin 300,000 units twice daily up to two weeks before discharge, the total given was 36 million units. The total dosage of sodium sulfadiazine given was 5 gm. He received oral sulfadiazine for eight days, a total of 48 gms. Streptomycin had been discontinued after seven days, after a total dosage of 7 gms.

Pre-operatively all the cultures of spinal fluid had been negative for pyogens and acid fast bacilli. The direct culture of the purulent material from the brain abscess on Brewer's thioglycolate broth revealed a snow flake growth which was typical of Actinomyces bovis. On smear the organisms were revealed as gram positive, branching rods and filaments. (Figure 2). The organisms were not acid fast. The drainage from the craniotomy wound did not at any time yield the sulfur granules generally considered typical of actinomyces. All attempts to obtain material for culture from a chest tap were unsuccessful. A sputum specimen was not available because the patient did not cough or expectorate. A tracheal lavage was done but this material was also negative for fungi, acid fast bacilli and tumor cells. Suspecting that other foci of actinomycosis might exist, smears from tonsils and

Figure 2. Smear of the culture from Brewer's medium stained by Gram's method, revealing tangled masses of branching rods and filaments typical of actinomyces bovis.

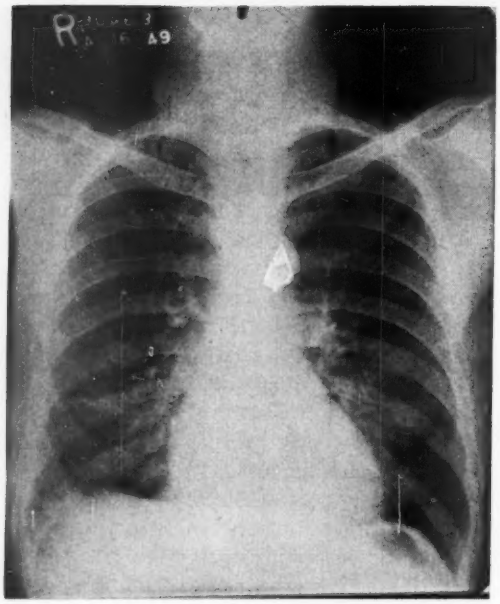

Figure 3. Roentgenogram taken eleven months postoperatively, showing almost complete resolution of the pleural fluid and patchy lesions previously seen in the right lower lung field.

teeth were also cultured for Actinomyces bovis but these proved negative. The patient refused bronchoscopic examination. In view of the history of right upper abdominal pain gastro intestinal and gall bladder series were done in search of possible actinomycotic foci. No abnormalities were found. The x-rays of the paranasal sinuses and teeth also showed no abscesses.

He was discharged from the hospital on July 21, 1948 with no residual hemiplegia and normal fundi. He returned to work on November 30, 1948. When seen in the clinic on April 9, 1949 he had no complaints. He was free of cough and sputum. Fluoroscopy and x-ray of the chest (Figure 3) revealed better excursion of the right diaphragm. The diffuse density overlying the right lower lung field in the lateral aspect and the diaphragm had resolved almost completely. The patchy infiltration had also resolved considerably.

DISCUSSION

Pulmonary actinomycosis is not a rarity. The presence of secondary brain abscesses are also not infrequent. The combination of the two with apparent cure is of sufficient interest to merit an attempt at evaluation of therapy. The pulmonary picture (x-ray) presented the following problems in differential diagnosis: tumor, tuberculosis, subphrenic abscess, and echinoccus cyst. The definite etiological factors for both the cerebral and pulmonary lesions were not obvious until the contents of the brain abscess were cultured and revealed Actinomyces bovis.

If the spinal fluid had been cultured for fungi it would most likely have revealed the actinomyces. The exact etiological relationship between the pleuro-pulmonary lesions and the brain abscess could not be established because adequate material was not accessible by chest tap, and bronchoscopy was refused. Actinomycotic pleurisy and empyema have been observed. In the lungs the fungi form abscesses which break down into small rather than large cavities. Contrary to the generally accepted opinion, thoracic lesions are usually of endogenous origin. Actinomyces occur in salivary calculi or tartar, and detached masses of this material may be aspirated. Aspiration of straw or pieces of leather by accident is a questionable source of these organisms for chest lesions.

The chemotherapy which this patient received was ineffectual alone until the abscess was evacuated. This drainage allowed for a reduction in the vascular stasis and edema and thus enabled the chemotherapeutic drugs to penetrate the zone of involvement. This reasoning applies to abscesses in general. The advent of chemotherapy has reduced the moridity and mortality which was so high when drainage alone was our only means of treating the brain abscess regardless of the causative agent. The cure of so virulent an infection of the brain as is usually produced by actinomyces indicates the remarkable action of sulfadiazine and penicillin.

CONCLUSION

1. A case of actinomycotic abscess of the brain, most likely associated with pleuro-pulmonary lesions of the same etiology is reported.
2. Anti-microbial therapy followed by surgical drainage resulted in cure.
3. The importance of culturing spinal fluid for fungi is stressed by this experience.

Appendiceal Abscess in a Four Month Old Infant

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Inflammation of the appendix in early infancy occurs often enough to deserve greater consideration as a diagnostic possibility. The early literature of appendicitis in infancy reveals that the diagnosis was usually made postmortem rather than at operation. The sequence of events to be reviewed in the clinical picture of a four month old infant followed the course usually seen in older children and adults.

A brief review of the literature reveals that appendicitis in the male outnumbers the occurrence in the female infant because of the frequency with which the appendix is found in inguinal hernial sacs. In most cases of true intra-abdominal appendicitis in infants, gangrene and early rupture is rapidly followed by generalized peritonitis and death. Localization and walling off in the abdomen is uncommon.

All unoperated infants under four weeks of age have died. The prognosis in hernial appendicitis is better. Four cases of pre-natal appendicitis were reported by Jackson[1], Hill and Mason[2], Corcoran[3] and Kummell. All died by the third day of life.

Wilson[4] includes these pre-natal cases and a critical analysis of appendicitis in infancy along with his case report of a three and one half pound premature infant with appendicitis at sixteen days of age. This infant showed symptoms of abdominal pathology on the fourteenth day, and at operation two days later revealed acute appendicitis with diffuse peritonitis. The patient died forty-eight hours later. Four other cases of intra-abdominal acute appendicitis, as distinguished from those found in umbilical and scrotal hernial sacs, have been met with in infants five, fourteen, sixteen and twenty-one days old. Of these thirty-seven were under one year. Reports by several authors on 2,988 cases revealed six one year olds or under. Holman[6] reported no child under two years of age in 1,200 cases. Marinan[7] cited a case of perforative appendicitis complicating acute nephritis in a five month old infant.

Coleman[8] mentions a five month old infant with acute appendicitis that resembled an intussusception. Ham[9] described appendicitis in a twelve day old infant, but the pathology was present within the contents of a scrotal hernia. Pope's[10] three weeks old infant had a five day history of swelling and inflammation of the penis and scrotum. This was treated with incision and drainage at which site a sinus formed which was followed by a hernia. Two years later in doing a herniotomy it was found that the appendix was adherent to the sinus and showed evidence of old inflammation.

In Wilson's review (with an excellent bibliography[1-28]) he tells of thirty-two cases of acute appendicitis in infants four to thirty-two weeks of age taken from the literature. Six were present in hernial sacs and twenty-six were true abdominal cases. In twenty-nine patients, where the sex was designated, twenty-three were males and six females. The outcome was mentioned in twenty-seven instances, the results being fourteen recoveries and thirteen deaths. Under the age of four weeks there were fifteen cases cited. Six of these were in hernial sacs and all of these patients recovered. The remaining nine were true intra-abdominal appendicitis and all proved fatal. In twelve of these cases the sex was mentioned, and they were divided into eight males and four females.

P. M., four month old negro female infant, entered the Cook County Children's Hospital, Nov. 5, 1948. She had been in good health until Oct. 26, 1948. Four hours after having partaken of potatoes and milk, she awoke and gagged. Vomiting occurred several times during the night and irritability was associated with anorexia. When brought to the hospital for examination these symptoms were attributed to an upper res-

From the Children's Division of The Cook County Hospital and The Department of Pediatrics, The Chicago Medical School.

piratory infection with constipation since there had been no bowel movement for forty-eight hours. Seen again on Oct. 29, 1948 because of continued abdominal pain, fever, anorexia and constipation, the admitting physician sent the patient home again with orders for an enema and symptomatic treatment. Abdominal pain continued for two days and the infant refused to play. Anorexia was marked but vomiting had ceased. The day before admission, nine days after the onset, the infant became drowsy and cried severely at intervals. Fever was marked but no vomiting occurred. The stools were described as "lumpy".

At the third examination in the admitting room, the infant who had now been ill for ten days, was found to have a temperature of 105 degrees, respiration 34, and pulse 130. The respirations were short and rapid and abdomen was distended, tense and very painful to palpation. A very tender grapefruit sized mass was palpable in the right lower quadrant. The legs were flexed on the abdomen. Peristaltic sounds were good. The blood count revealed Hemoglobin 70%, red blood corpuscles 3,850,000, white blood cells 29,800 with 83% polymorphonuclears. The following day the white blood count was 36,100 with 89% polymorphonuclears. Table I.

The case seemed to be one of appendiceal abscess but the extreme rarity of a walled off mass in such a young patient required the following conditions to be ruled out: 1) Wilm's tumor, 2) Neuroblastoma, 3) Mesenteric Cyst, 4) Enterogenous Cyst, 5) Dermoid Cyst.

The findings remained localized to the right lower quadrant with no sign of generalized peritonitis. Vomiting never recurred nor was there any evidence of diarrhea, constipation, or intestinal obstruction. A flat x-ray plate of the abdomen showed the right sided mass with the bowel pushed to the left. A barium enema filled to the transverse colon, then the contrast material went down, then up where it entered the small bowel. In the lateral view, it was seen that the descending colon was pushed forward and ascending colon upward and backward. This view also showed a typical "step-ladder" picture identified with intestinal obstruction, but no signs of obstruction ever appeared. See Figures 1, 2 and 3.

The intravenous pyelogram, Roentgen study of the chest, Mantoux 1-1000 and the Wassermann test were all negative. Culture of aural discharge on Nov. 26 was positive for E. Coli. Urine culture on Nov. 29 revealed E. Coli and pseudomonas aerogenes. Culture from the abdominal abscess was positive for E. Coli and pseudomonas aerogenes.

Ten days after admission umbrathor was given by mouth and the x-ray department reported, "the only conclusions one can derive from the examination is that we are dealing with a large, soft tissue mass which in a child of this age causes one to consider Wilm's tumor and sympathico-blastoma."

The diagnosis having been narrowed down to that of appendiceal abscess, which was apparently well walled off and localized, conservative management as employed in older children and adults was considered to be the treatment of choice. This attitude was concurred in by the surgical department and the treatment consisted of intravenous fluids, blood transfusions, penicillin 50,000 units every three hours by injection, streptomycin one gram a day, sulfasuxidine and adequate multiple vitamins.

The infant showed only moderate toxemia, no vomiting, and distress was evident only on abdominal palpation. Anorexia persisted, the temperature subsided gradually, but never re-

Table I

BLOOD COUNTS

Date	Hb	R.B.C.	W.B.C.	Polys.	Eos.	Lymph.	Mono.
11- 6-48	60	3,330,000	36,100	89		8	3
11-10-48	70	4,880,000	23,700	75		17	7
11-19-48	70	3,990,000	28,500	71		15	13
11-23-48	63	3,960,000	27,250	54		43	2
11-27-48			23,200	66		29	3
11-30-48			17,300	63		35	1
12- 4-48	60	3,180,000	19,900	58	11	30	1
12- 9-48			22,100				
12-15-48	70	4,140,000	22,900	25	3	62	10
12-21-48	72	4,190,000	13,000	38	4	47	10

Figure 1

Figure 2

Figure 3

mained normal. The white blood count and polymorphonuclear preponderance decreased moderately, but the size of the mass remained constant.

Because of the persistence in the size of the swelling, anorexia and failure to gain weight, surgical intervention was carried out on Dec. 1, 1948, twenty-five days after admission and five weeks after the onset.

A right sided large walled off peritoneal abscess with necrotic material and brownish-creamy pus was discovered in the retro-cecal area. An incision was made by Dr. Carl Davis Jr., and several ounces of pus removed. Culture of this material revealed E. Coli and pseudomonas aerogenes. A drain was inserted and Wangensteen suction employed for two days. The temperature subsided immediately, white count returned to normal, appetite was restored, and the infant was cheerful. Drainage continued for a few weeks when the wound closed and the patient was discharged.

April 24, 1949, the infant was re-examined. No mass was palpable, the patient was afebrile, and the blood count was completely normal. Two days later surgery was reinstituted to remove the "blown out" appendix. Dr. Egbert H. Fell reported the surgical findings as follows: 1. An omental inclusion cyst, the residuum of appendiceal abscess containing mucus, a fecalith and the tip of the appendix. This was adherent to the right lower quadrant wound. 2. Eight cm. proximal to the ileo-cecal valve were six black sero muscular stitches. 3. Umbilical hernia. 4. No evidence of base of appendix. Cecal area covered with Jackson's membrane.

The surgery consisted of: a) Excision of old right rectus scar. Delineation of fascia and muscle layers. b) Delivery of omental cyst by clamping, cutting and tying its superior and lateral attachment.

Recovery was uneventful and the patient was discharged.

COMMENT

The inadequacy of the omentum which is short and transparent in a four month old infant, the poor blood supply to the appendix, the thinness of its walls and the meager general immunity at this age make the clinical course in this case quite unusual. In older children and adults the protective power of the abdominal peritoneum in walling off an abscess produced by a ruptured appendix is not an unexpected occurrence. Appendicitis in the very young is relatively rare because the cone-shaped lumen of the appendix permits free drainage into the cecum.

The occurrence of appendicitis in young infants is predisposed by the prolapse of the appendix into an inguinal or scrotal hernial sac. This altered position results in impairment of circulation when stasis is present with consequent infection. The good prognosis in these cases is due to surgical intervention for the herniotomy.

Abdominal examination of the crying infant

may be enhanced by the administration of mild sedative for relaxation. Persistent local muscle spasm may be more properly evaluated by this means.

SUMMARY

1. A case of walled off appendiceal abscess in a four month old infant is reported.
2. Conservative management was carried out for five weeks after the onset when incision and drainage became necessary.
3. Five months later surgery revealed the appendix completely sloughed off and part of an omental cyst.
4. The accurate early diagnosis of appendicitis in infants is of utmost importance and will be made more frequently with greater awareness of its occurrence.

30 N. Michigan Ave.

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PATHOLOGY IMPORTANT IN HYSTERECTOMY

We do not advocate general adoption of total hysterectomy. Individualism is as wise here as in every other surgical procedure. The decision should be made upon a consideration of the pathology involved, the condition of the cervix, the technical problems presented by the individual case and a conscientious self-appraisal by the surgeon of his own capabilities. *Excerpt: Total Versus Subtotal Hysterectomy, E. L. Henderson, M. D., J. Luther Fuller, M. D., Louisville, The Southern Surgeon, May, 1950.*

Dislocation of the Lumbo-Sacral Spine

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Anterior dislocation of the sacrum from the 5th lumbar vertebral body occurred in the patient whose history is reported. A thorough search of the literature has failed to reveal another reported instance of this condition, though Watson-Jones[1] says, "Displacement identical to spondylolisthesis may be produced acutely by a severe injury in a spine which was previously normal. The pedicles are usually fractured and the 5th lumbar body is dislocated forward. Injury of the sacral nerves may cause saddle anaesthesia of the perineum and paralysis of the sphincters. Reduction may be achieved by the same technic as described for congenital spondylolisthesis."

Miss E. R., age 45, was thrown from a horse at 11 A.M., October 24th, 1945. The horse also fell, landing on the patient's back. The horse's back hit the back of the patient's pelvis. Late that afternoon I saw the woman for the first time in the emergency room of Michael Reese Hospital. She had severe low back pain, pain in the left lower chest, and in the left leg. She could not move either leg and had numbness in both, the left more than the right. Shock was obvious and marked. The right chest wall was very tender antero-laterally. There was deformity of the back with the sacrum seemingly anterior to the vertebral column, and marked tenderness in this area. Neurological examination by Dr. I. Sherman gave the impression of a complete cauda equina lesion from L3 down on the left and SI down on the right. X-rays revealed (1) Fractures of the 6, 7, and 8th right ribs in the mid axillary line in good position, (2) Fractures of the 4th and 5th left transverse processes, (3) A complete dislocation of the lumbar spine with L5 completely posterior to the first sacral vertebra, and overlying of about half the height of the body, with a few small bony fragments, evidently denoting some comminution of the 1st sacral vertebra. (Figure 1.)

The poor general condition of the patient demanded treatment with intravenous fluids and plasma and any attempt at reduction was postponed. The next morning her general condition improved somewhat, and she was then given a general anaesthetic to obtain complete muscular relaxation. She was pulled to the end of the table until the sacrum projected over the edge, each leg being supported by an assistant. Traction was then made against the flexed thighs, and reduction of the dislocation could be felt and heard very promptly. There was complete disappearance of the deformity of the

Figure 1 — Lateral Roentgenogram before reduction.

1. Sir Regnald Watson-Jones: Fractures and Joint Injuries. 3rd Ed. Vol. 1, Page 332-1946.

From the Department of Surgery, Michael Reese Hospital.

Figure 2 — Lateral Roentgenogram after reduction.

back. X-ray examination confirmed the complete reduction of the dislocation. (Figure 2.) The patient was placed on a Stryker frame. Because of inability to void, a retention catheter was inserted into the bladder and tidal drainage was instituted. There was marked paralytic ileus for several days, after which her general condition began to improve.

During the next few weeks there was some improvement in the motor power of some muscles, especially of the right leg. Exploratory laminectomy was done on November 30th, 1945 (Dr. P. Bucy) confirming the complete tear of some of the roots of the cauda equina. Organizing clots and scar tissue which compressed the cauda were removed. Slight improvement in the motor power continued. On December 29th, 1945, the catheter slipped out of the bladder and spontaneous voiding was accomplished, and in several days there was no residual urine. Orthopedic care (Dr. S. Sideman) and physical therapy continued and about February 1, 1946 three months after the injury, a long left leg and a short right leg brace were applied, and the patient began to be up and about some on crutches.

On June 25th, 1946, neurological examination by Dr. Sherman revealed marked atrophy of the left leg, somewhat less of the right. The right patellar reflex was brisk, the left absent. Motion of the right leg was good above the knee. The tibialis anticus was fairly good, the posterior tibial fair, the extensor hallucis longus and the extensors of the toes were weakly present, as were the plantar flexors of the toes and the peroneal muscles. Other muscles had no motion. The left leg had motion only in the thigh muscles. There has been little change in the neurological picture since, and the patient is ambulant with the aid of braces and a cane.

SUMMARY

A report is made of an anterior dislocation of the sacrum off the lumbar spine with cauda equina injury. The dislocation was reduced, but much of the motor paralysis of the lower extremities has been permanent.

104 S. Michigan Ave.

Idiopathic Thrombocytopenic Purpura
Associated with Accessory Spleens and Complicated by Severe Hemothorax and Hemoperitoneum

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Primary or idiopathic (thrombocytopenic) purpura hemorrhagica can no longer be considered a rare entity and the criteria for accurate diagnosis are well established: repeated crops of purpura, often post-traumatic, spontaneous hemorrhages from the mucous membranes, marked and unaccountable reduction in blood platelets, prolonged bleeding time, decreased clot retraction, normal clotting time and increased capillary fragility. In doubtful cases bone marrow study is generally diagnostic. Nevertheless, such cases go unrecognized until serious and sometimes fatal hemorrhage results. This is particularly true in young women because it is not generally appreciated that vaginal bleeding may be the major symptom and occasionally the only symptom of purpura. In a recent article Walsh and Donlon[1] make an urgent plea for the early recognition of purpura hemorrhagica as the cause of fatal menorrhagia in young women and report two such cases. Nor is it realized that, although uncommon, purpura hemorrhagica may be the cause of hemothorax and hemoperitoneum. This lack of appreciation is partly attributable to the fact that most text-books of medicine make only passing reference to the possible etiologic role of blood dyscrasias in considering the differential diagnosis of bleeding into the serous cavities of the body. The case we are herein reporting dramatically demonstrates the above facts.

The patient, Miss D. G., aged 17 years, was first seen by a gynecologist because of continuous vaginal bleeding of four weeks' duration. Recognizing that the menorrhagia was not due to pelvic pathology, he referred her for medical care. On admission to the hospital (July 7, 1947) examination revealed small purpuric lesions about the lower lip and palate and fading ecchymoses about the left hip and leg (attributed to trauma by the patient). Vaginal bleeding was marked and persistent and pyorrhea alveolaris was noted with bleeding from the gums. All other physical findings were negative. Laboratory studies showed the following: hemoglobin 39.6 per cent, erythrocytes 2,690,000 and white cells 5,800 with 79 per cent polys, 15 per cent lymphocytes and 3 per cent monocytes; platelet count 27,000 (control 270,000); coagulation time 5½ minutes and bleeding time in excess of 15 minutes; blood vitamin C level 1.55 mgm.; prothrombin time 100 per cent of normal and negative serology. Three days later the platelet count was 20,000 and hemoglobin dropped to 33 per cent with 1,870,000 erythrocytes.

Conservative therapy was instituted immediately with multiple blood transfusions, rutin, etc., but the bleeding continued unabated. Bone marrow examination shortly after admission showed a small number of megakaryocytes, abundant elements of both myeloid and erythroid cells with diminution of mature granulocytes (maturation arrest). There was no increase in myeloblasts and erythroid elements were hyperplastic. The erythrocytes showed marked macrocytosis and polychromatophilia and eosinophilic reticulocytes were not increased. Blood culture was negative. Finally, after eleven transfusions, splenectomy was recommended.

The platelet count before splenectomy (July 19, 1947) was 36,000 and an additional bone marrow study just before surgery showed only one island of tissue in which megakaryocytes were quite numerous and eosinophils were not increased. At operation (J.T.G.) the abdominal cavity, which was entered through a left sub-

From the Medical and Surgical Services of the Mount Sinai Hospital and The Chicago Medical School, Chicago, Illinois.

costal incision, was found to be filled with a thick bloody fluid, 1500 cc. of which was aspirated before any organ could be recognized. The spleen appeared to be of normal size and was removed by the usual procedure. It was noted that the active oozing from the serous surfaces and the wound margins stopped almost immediately after ligation of the splenic vessels. A thorough search for accessory spleens was then made in the order suggested by Curtis and Movitz[2]. One large mass with the shape, color and consistency of a spleen was found in the pedicle and two smaller masses, one in the transverse mesocolon and the other in the omentum, were also excised.

Examination of the excised specimens (Dr. I. Davidsohn, Pathologist) revealed the following: The spleen (12.5 x 7 x 3 cm.) weighed 140 grams; the larger mass measured 2 x 5 x 0.5 cm. and the two smaller masses measured 3 mm. in diameter. The larger mass was found histologically to have the typical structure of a spleen while the smaller masses were hemolymph nodes. The pathologic diagnosis for the spleen and accessory spleen was hyperplastic splenitis and for the hemolymph nodes, hyperplastic lymphadenitis.

The platelet count two hours after splenectomy was 46,000 and daily counts thereafter showed a progressive increase up to 349,000 on the sixth postoperative day, followed by a progressive decline to 92,000 on the day of discharge, fifteen days after the operation. All bleeding manifestations stopped within several days but a low grade fever persisted; this was attributed to absorption of blood from the abdominal cavity. All told, she had received, pre-during and postoperatively, fourteen whole blood transfusions and two units of packed cells equivalent to 1000 cc. of whole blood.

She was rehospitalized within 48 hours after discharge because of pain in the left chest, dyspnea and a fever of 103.8 orally. Examination revealed a left sided pleural effusion with findings indicative of pneumonic infection. Thoracentesis was done and 2000 cc. of blood was removed. A blood count at this time showed hemoglobin 77.4 per cent, red cells 4,170,000 and white cells 10,000 with a normal differential: platelets numbered 229,000.

Because of the intercurrent infection, both penicillin and sulfonamide therapy were started. Within several days the platelets dropped to 30,000 and bleeding from the gums was noted; they then dropped to 16,000 with only a slight decrease in hemoglobin and red cells. The white count dropped to 5,400 with 57 per cent polys, 24 per cent lymphocytes and 12 per cent monocytes. The coagulation time was 4 minutes, bleeding time was again prolonged beyond 15 minutes and there was no clot retraction in 24 hours. Bone marrow examination showed a decrease in megakaryocytes with hyperplasia of the myeloid and erythroid cells.

Diagnostically, we could not determine whether this recurrence was due to the sulfonamide therapy (secondary purpura), to the presence of additional overlooked accessory spleens, to the toxicity of the pneumonic infection or simply to the fact that the splenectomy had been ineffective. Antibiotic and chemotherapy were immediately stopped and transfusions were again utilized. The platelets gradually rose to 50,000 and all bleeding stopped. The chest cleared up, she became afebrile, the platelets rose to 200,000 and she was again discharged. She has been followed as an outpatient and the platelets gradually and progressively increased to a peak of 498,000. In the fall of 1948 the count was 435,000 and in the Spring (March, 1949) it was 315,000; the last blood count showed hemoglobin 84 per cent, red cells 4,446,000 and white cells 8,700 with a normal differential.

Discussion: According to the criteria set forth by Schwartz[3], the bone marrow studies eliminated the possibility of any allergic factor being etiologically responsible for the intense purpura. The diminution of megakaryocytes, except for one island of tissue in the second bone marrow examination, indicated a poor prognosis. Nevertheless, in order to avoid fatal hemorrhage, emergency splenectomy had to be done. The patient's age was in her favor for it has been shown that splenectomy is about twice as effective in the earlier decades of life than in the later ones[4]. It is now about twenty months since the splenectomy was done and we feel certain that the cure will be permanent although we are cognizant of the data published by Elliott[4] who reports fatal recurrences as late as two years after splenectomy. Finally, we want to emphasize strongly that careful search must be made for accessory spleens if the operation is to be effective. Curtis and Movitz[2] report the

frequency of accessory spleens at necropsies at about 10 to 35 per cent and at operations on patients with splenic disease at 20 to 40 per cent. Common sites for accessory spleens are the hilus, pedicle, omentum, retroperitoneum, splenocolic ligament, mesentery and the left adnexa in females.

CONCLUSIONS

We are herein reporting a case of idiopathic thrombocytopenic purpura associated with an accessory spleen in a young woman in whom menorrhagia was the major symptom, complicated by extensive hemothorax and hemoperitoneum and in whom splenectomy was resorted to as a life saving measure despite diminution of megakaryocytes in the bone marrow. Following recovery, a secondary purpura developed with thrombocytopenia due to inadvertently instituting chemotherapy for a pneumonic infection superimposed on a compressed lung due to the extensive hemothorax. Several pertinent facts are worthy of re-emphasis: menorrhagia in a young woman should suggest a blood dyscrasia in the absence of pelvic pathology or pregnancy; hemothorax and hemoperitoneum may be caused by purpura or other blood dyscrasias associated with hemorrhagic manifestations; despite bone marrow findings, splenectomy may be a life-saving operation when all conservative measures fail to stop the bleeding; and careful search must be made for accessory spleens.

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TREATMENT OF ALCOHOLISM

Preliminary studies on the effects of antabus (tetraethylthiuram disulfide) in the therapy of alcoholic patients indicate that it is very valuable in providing a "chemical foundation" for sobriety, even in those with a severe, long term drinking problem. In the first thirty patients treated, a favorable degree of control of the alcoholism has been effected in approximately 80 per cent. When taken regularly the drug maintains in the patient a very high degree of sensitivity to alcohol, quickly producing a number of very distressing bodily reactions whenever even very small amounts of spirits are ingested. Because of its potential dangers, antabus should be used only after thorough clinical and laboratory studies in properly staffed institutions. It is contraindicated in individuals with existing major phychosis or drug addiction and must be used only with caution in patients with diabetes mellitus, cardiovascular disease, goiter, pregnancy, epilepsy, asthma, and hepatic disease. Antabus therapy should be considered only one aspect of the total treatment program for the alcoholic patient. *Excerpt: The Use of Antabus in the Therapy of Alcoholic Patients, John D. Moriarty, M.D., Los Angeles, California Medicine, August, 1950.*

NEWS OF THE STATE

CHAMPAIGN

Outstanding General Practitioner.—Dr. W. E. Schowengerdt, Champaign, recently was elected "the outstanding general practitioner" of 1950 in Champaign County. This makes him eligible as a candidate as the outstanding Illinois practitioner. Dr. Schowengerdt was a member of the Champaign school board for thirty-four years when he resigned in 1947.

COOK

Society News.—The Chicago Diabetes Association was addressed at Thorne Hall, October 6, by Drs. Ralph A. Reis and M. David Allweiss, both of Northwestern University Medical School, on "Management of the Pregnancy, the Diabetes, and the Newborn, in Pregnancy Complicated by Diabetes." Dr. Arthur R. Colwell, also of Northwestern, discussed "Management of Diabetes in Children."—Dr. Philip Thorek discussed "Carcinoma of the Esophagus" and "Gallbladder Disease" before the Texas Academy of General Practice in Fort Worth, Texas, September 25. "Pre and Postoperative Care in the Cancer Patient" was the title of Dr. Thorek's presentation, September 28, at the Savanna Tumor Diagnostic Clinic in Savanna, Illinois.

The Chicago Society of Physical Medicine and Rehabilitation held a meeting October 25, at 8 p.m., at the University of Illinois College of Medicine with Dr. H. Worley Kendell who presented "Electromyography in Physical Medicine and Rehabilitation." Other speakers in the future will be Dr. Charles O. Molander, November 22; Arthur H. Steinhaus, Ph.D., January 24; Dr. Disraeli Kobak, February 28; Dr. Harold Sofield, March 28; Dr. Louis B. Newman, April 25; and Dr. Frank H. Krusen, Rochester, Minnesota, May 23. Dr. Arthur A. Rodriquez is secretary-treasurer of the society and Dr. Louis B. Newman, president.

Personal.—Dr. Mark H. Lepper has been appointed to the faculty of the College of Medicine as an associate professor in the department of preventive medicine by the University of Illinois Board of Trustees. Dr. Lepper has done research work in the therapies of infectious diseases, toxic reactions to drugs, particularly drug allergy, and inhibition and antigen antibody reactions.

Changes in Faculty.—Appointments at the Chicago Medical School include Drs. Harry B. Lerner, Daniel L. Streicher, Herbert H. Krantz and Harold R. Kamenear, assistants in the department of medicine; Dr. Louis Berlin and Bernard Skorodin, associates in neurology in the department of neurology and psychiatry; and Dr. Hyman S. Gordon, assistant in pediatrics, department of pediatrics. Promotions on the faculty include the following: Dr. David Cohen to professor of dermatology, Dr. Donald H. Atlas to associate professor of medicine, Dr. Irving Siegel to associate professor of obstetrics, Dr. Morris Goldenberg to assistant professor of pathology, Dr. Paul H. Kopper to assistant professor of microbiology and public health, Dr. David B. Radner to assistant professor of medicine, Dr. Kurt Stern to assistant professor of pathology and Dr. Meyer J. Steinberg to assistant professor of medicine.

Blatt Memorial Lecture.—Dr. John Caffey, clinical professor of pediatrics, Columbia University College of Physicians and Surgeons, New York, gave the second Maurice Lamm Blatt memorial fund lecture at Cook County Hospital, October 9. His subject

was "Infantile Cortical Hyperostosis and Vitamin A Poisoning."

The Sheinin Lectureship.—Dr. Robert E. Gross, surgeon in chief of the Boston Children's Hospital, gave the first annual John J. Sheinin lectureship, October 16, on "Heart Diseases." The lectureship was established in honor of Dr. John J. Sheinin, president, Chicago Medical School, by the Beta Tau Chapter, Phi Delta Epsilon.

Students Honor Instructors.—Fourth-year students in the University of Illinois College of Medicine have presented Dr. Carroll L. Birch and Dr. Francis L. Lederer with the Raymond B. Allen Instructorship Awards for the 1949-50 school year. The awards, designed to honor excellency in individual instructorship rendered by faculty members to students, were given to Dr. Birch for didactic instruction and to Dr. Lederer for his clinical teaching.

Dr. Birch also received the award presented by the second-year students.

Third-year students presented their awards to Dr. Philip Thorek for didactic instruction and to Dr. Louis Feldman for clinical instruction. Dr. Otto A. Bessey received the award from first-year students.

Each of the award winners received a key in the form of a golden apple. Their names will be placed on the permanent plaque which hangs in the Chicago Illini Union.

The awards were presented by the Student Council of the College of Medicine.

Hospital News.—The Mercy Hospital Internes and Residents Alumni Association held its annual meeting, October 14. The program included scientific presentations, a luncheon and a formal dinner dance.

Grants for Research.—The Chicago Medical School has received a grant in the amount of $4,500 from the National Institue of Mental Health through the U. S. Public Health Service. The grant will be used by Dr. George C. Clark, associate professor of neuro-anatomy, for a research study for the determination of the extent of variation in the cell size and arrangement of selected portions of the brain.

Borden Award.—Dr. John M. Marshall, Jr., an intern at the University of Illinois Research and Educational Hospitals, has been named the winner of the Borden Undergraduate Research Award for 1950 by the University of Illinois College of Medicine.

The award represents a gift of $500. Originality and thoroughness of research are of primary consideration in selecting the winner of the award, which is given by the Borden Company Foundation, Inc.

Dr. Marshall received the award for his investigation of the role of the enzyme, renin, in high blood pressure produced in animals by constriction of the arteries to kidneys.

Travel Award Goes to Dr. Schiller.—Dr. Alfred A. Schiller, assistant professor of physiology, University of Illinois College of Medicine, was the recipient of a travel award from the Federation of American Societies for Experimental Biology which Dr. Schiller made possible with his presentation of a paper on "Effects of a Vitamin P Flavanoid and Ascorbic Acid on the Cutaneous Circulation Determined by a New Quantitative Method." The paper was delivered before the 18th International Physiological Congress at Copenhagen, Denmark, in August. The $500 award is one of five made by the Federation to scientists under thirty-five years of age who submitted the best contributions in physiology and gave the best evidence of creative productivity.

DE WITT

Kenney's Only Physician Retires.—Dr. Fred M. Blome, Kenney, has announced his retirement from the active practice of medicine where he has been practicing for many years. He and his wife plan to live on their farm in Sheridan, Michigan. He is the only physician in Kenney.

JO DAVIESS

Society News.—The Jo Daviess County Medical Society held a dinner meeting, September 21, in Galena, honoring Drs. C. G. Buford and U. S. Lewis as members of the Fifty Year Club of the Illinois State Medical Society, with Dr. J. S. Lundholm, Councilor of the First District, presiding.

MACON

Society News.—The Macon County Medical Society held a meeting, September 26, at the St. Nicholas Hotel with the following speakers: Dr. William B. Wartman, Chicago, "Recent Advances in Cardio-Vascular Diseases (Arterial Occlusion and Infection)" and Mr. Charles H. Meredith, Quincy, on "A Report on the Illinois Healing Arts Committee."

MADISON

Society News.—Dr. Robert J. Mueller, instructor in neuropsychiatry, Washington University School of Medicine, St. Louis, addressed the Madison County Medical Society at St. John's Methodist Church, Edwardsville, September 7, on "Psychosomatic Medicine."

MORGAN

Society News.—"Pulmonary Insufficiency" was discussed by Dr. Emmett Pearson, Springfield, before the Morgan County Medical Society, October 12.

ROCK ISLAND

Society News.—Dr. Walter Carroll, assistant professor of surgery, Northwestern University Medical School, addressed the Rock Island County Medical Society at St. Anthony's Hospital, October 10, on "Carcinoma of the Breast." The society was addressed, September 12, at the Moline State Hospital,

by Dr. Marcus Emmons, Clinton, Iowa, on "A Discussion of Common Problems in Psychoneurosis."

UNION

Dr. Nobles Retires.—Dr. Charles D. Nobles, seventy year old superintendent of Anna State Hospital, will retire December 31, it is reported. Dr. Nobles has worked for the Illinois Department of Public Welfare since 1923, serving as superintendent of the Anna State Hospital since 1944.

VERMILION

Society News.—At a joint meeting of the medical and dental societies of Vermilion County and representatives of various industries and other community activities, October 3, Dr. R. Haynes Barr, Owensboro, Kentucky, spoke on "The Question of Socialization of Medicine."

WARREN

Dr. Graham Honored.—Dr. Ralph Graham was honored September 7 at a dinner given by the Warren County Medical Society to mark his induction into the Fifty Year Club of the Illinois State Medical Society. Dr. John Bohan, Alexis, president of the county medical society, presided. The presentation of the insignia of the Fifty Year Club was made by Dr. Andy Hall, Mount Vernon, recently chosen Outstanding General Practitioner by the American Medical Association, who is head of the Fifty Year Club. Among the speakers who paid tribute to Dr. Graham for many years of service were Dr. Harold M. Camp, Monmouth, Secretary of the Illinois State Medical Society; Dr. Harry M. Hedge, Chicago, President, Dr. Charles P. Blair, Monmouth, Chairman of the Council, and Dr. Edwin M. Miller and Dr. Harry A. Oberhelman, both of Chicago. The principal speaker was Dr. Ernest E. Irons, Chicago, the immediate past president of the American Medical Association. Other talks were made by Mayor Ralph Wells, Monmouth, and Dr. James Harper Grier, president, Monmouth College Club. Dr. Graham graduated at Rush Medical College in 1900.

WINNEBAGO

Society News.—Dr. Stanley W. Olson, dean, University of Illinois College of Medicine, spoke before the Winnebago County Medical Society, October 3, on "Individual Responsibility in Community Care of Chronic Disease." The county medical society was the guest of Dr. and Mrs. Carl Hamann at a picnic luncheon at Elmlawn on September 29.

GENERAL

Welfare Department Statistics.—The book population of all institutions July 31, 1950, was 55,389. This includes not only those present but also all those in out-patient convalescent care. The resident population July 31, 1950 was 48,281. This figure does not include pupils at schools for Deaf and Blind, who were home for summer vacation.

The greatest increase over July of last year was in the nine hospitals for the mentally ill, in which the population rose 843. During the month there were 1,074 admissions, 688 discharges and 244 deaths. Three-hundred forty-seven were released on conditional discharge and 43 were placed in family care. There were 39,571 on books July 31, 1950.

The two institutions for the mentally defective (Dixon State Hospital and Lincoln State School and Colony) show an increase of 238 over previous year. The resident population was 9,525 with 10,659 on books July 31, 1950.

There were 368 in Security Hospital July 31, 1950. Of this number, 281 were mentally ill and 87 were mentally deficient.

At Neuropsychiatric Institute, where most admissions are temporary for special treatment, 55 patients were present at end of month.

The Veteran's Rehabilitation Center, Chicago, and the Veterans' Clinics, Champaign, Rockford, and Peoria, received 76 new cases during the month. There were 1,336 visits to the clinic in Chicago, 180 in Champaign, 12 in Peoria, and 26 at Rockford. Since opening the centers, 6,493 veterans have received treatment at Chicago, 262 at Champaign, 43 at Peoria and 93 at Rockford.

The Division of Veterans' Service reported 3,254 present in all Welfare institutions July 31, 1950. Of this number, 1,794 were World War I veterans and 863 were World War II veterans. There were 217 admissions, 144 discharges and 16 deaths during the month.

The Chicago Community Clinic reported 454 new patients and 45 former patients during the month. Of the number, 428 of the new patients were former patients in state hospitals and all of the former patients interviewed were previously confined in state hospitals.

In addition, 1,364 patients were interviewed in out-patient psychiatric clinics. There were 2,732 visits to these clinics during the month of July.

Boys' Training School, Girls' Training School, Women's Reformatory, and Illinois State Reformatory, reported 898 juvenile delinquents, felons, and misdemeanants present July 31, 1950. Forty-six were received from court and 51 were discharged during the month.

There were 402 pupils present at Children's Hospital-School and Soldiers' & Sailors' Children's School. The Schools for Blind and Deaf were closed for summer vacation.

There were 1,222 present at Soldiers' & Sailors' Home and 92 at Soldiers' Widows' Home.

The Institute for Juvenile Research interviewed 166 new cases during the month. There were 111 case reports during the month and 45 educational activities.

Clinical and diagnostic services for Eye and Ear Infirmary administered 15,330 treatments during the month of July, while Clinics for Trachoma Control and Prevention of Blindness administered 856 treatments during the month.

DEATHS

ALBERT H. CARTER, Oak Park, who graduated at Northwestern University Medical School in 1906, died October 8, aged 66. He was captain in the medical corps in World War I.

WALTER I. CAROLUS, Sterling, who graduated at The Hahnemann Medical College and Hospital in 1902, died September 18, aged 77. He was a member of the Illinois State Medical Society "Fifty Year Club."

FARIS F. CHESLEY, Chicago, who graduated at Rush Medical College in 1922, died September 12, aged 52. He was assistant professor of medicine at Northwestern University Medical School.

MAURICE DORNE, Chicago, who graduated at the University of Illinois College of Medicine in 1916, died September 24, aged 57. He was an associate in dermatology at Northwestern University Medical School.

EPHRAIM K. FINDLAY, Chicago, who graduated at the University of Manitoba Faculty of Medicine, Winnipeg, Canada, in 1893, died September 27, aged 80. He was senior ophthalmologist at St. Luke's Hospital since 1924.

CLARENCE A. FORTIER, Kewanee, who graduated at Loyola University School of Medicine in 1922, died in St. John's Hospital, Springfield, September 19, aged 54.

WILLIAM F. GRAYSON, Granite City, who graduated at St. Louis College of Physicians and Surgeons in 1898, died September 20, aged 79. He had practiced medicine in Granite City over 50 years.

ARMINA SEARS HILL, Chicago, who graduated at the College of Physicians and Surgeons of Chicago in 1906, died August 22, aged 78. She was affiliated with Women's and Children's Hospital, where she was twice president.

THEOPHIL J. HOLKE, Freeport, who graduated at Washington University School of Medicine, St. Louis, Mo., in 1899, died September 9, aged 74. He was a member of the Illinois State Medical Society "Fifty Year Club."

EMMET KEETING, Chicago, who graduated at Rush Medical College in 1903, died September 16, aged 78. He was a past president of the Northwest Branch of the Chicago Medical Society and the Logan Square Kiwanis Club.

ERIC L. LARSON, retired, Lake Villa, formerly from Chicago, who graduated at Bennett Medical College, Chicago, in 1910, died September 5, aged 71.

PAUL A. ZANDER, Kankakee, who graduated at Ludwig-Maximillians-Universität Medizinische Fakultät, München, Bavaria, in 1908, died September 2, aged 67. He was a staff physician at Kankakee State Hospital for 10 years.

"FOR THE COMMON GOOD"

Health Talk on WGN-TV:—Since the last Illinois Medical Journal, the following telecasts have been presented over WGN-TV under the auspices of the Educational Committee:

When Your Feet Hurt, Carlo Scuderi, October 25.

The Rh Factor, Israel Davidson, October 2.

Preparing the Surgical Patient, John Scully, Bernard Patrick, George McCurdy, Jean Olson, Ruth Schroeder and Mildred Wickman, October 9. This telecast received the cooperation of V. Mueller and Company and Augustana Hospital in providing extensive equipment.

Ulcers of the Stomach, George Cummins, October 16.

Your Doctor Speaks over WFJL, Thursday evenings, at 7:30 carried the following transcribed broadcasts:

George F. O'Brien, October 12, Diseases of Blood Vessels.

Burton C. Kilbourne, October 19, Industrial Accidents.

Louis R. Limarzi, October 26, Your Blood in Health and Disease.

You and Your Baby over Station WAAF, Tuesday mornings at 10:30 a.m., presented the following physicians in live broadcasts:

Franklin Corper, September 26, The Baby at Six Months.

Gustave Weinfeld, October 3, Growth and Development.

Lawrence Breslow, October 10, Enjoy Your Baby.

Maxwell P. Borovsky, October 17, Understanding the Baby.

Here is Your Doctor over Station WCFL. Saturday mornings at 11 a.m., presented the following physicians in transcribed broadcasts:

Oscar Becker, October 7, Plastic Surgery.

I. Pat Bronstein, October 14, Your Glands and You.

Samuel Bluefarb, October 21, Common Diseases of the Skin.

Nathan S. Davis, October 28, Understanding Aging.

Lectures Arranged Through the Educational Committee:

Harlan English, Danville, Catholic Rural Life Con-

ference, October 16, Status of Medical Service in Rural Illinois.

Eugene L. Slotkowski, Chicago, Mother's Club, Irving Park YMCA, October 24, Keep Your Son Healthy.

James A. Conner, Young Mothers Club of Bryn Mawr Community Church, November 13, My Child Will Not Eat.

Jerome S. Beigler, Oakland Branch Library Forum, November 17, Growing Old Gracefully.

Lectures Arranged Through the Scientific Service Committee:

Paul C. Bucy, October 5, Sangamon County Medical Society, Management of Convulsive Disorders.

Elizabeth Painter, Ph.D., Aurora Medical Society, October 5, Physiologic Effects of Radiation.

Hans von Leden, Evanston, November 9, Effingham County Medical Society on Dizziness.

Charles N. Pease, December 14, Effingham County Medical Society on Low Back Pain.

Eugene T. McEnery, December 14, La Salle County Medical Society on Care of the New born.

Wayne W. Flora, Chicago, Iroquois County Medical Society, December 19, on Management of Anal and Rectal Fistula.

Postgraduate Conference for Bloomington, October 19.—The Postgradute Education Committee of the Illinois State Medical Society arranged the following conference for the Fifth Councilor District in Bloomington, October 19, with T. C. Scott, Bloomington, vice president of the McLean County Medical Society presiding:

Ralph A. Reis, Toxemias of Pregnancy.

Chester Coggeshall, Diabetes.

I. Pat Bronstein, Pediatric Endocrinology.

In the evening, Mr. John W. Neal spoke on "Voluntary Prepaid Medical Insurance," and Dr. Danely P. Slaughter, on "Recent Advances in Cancer Therapy."

FIND CHLORAMPHENICOL USEFUL AGAINST BACILLARY DYSENTRY

Good results in treating 35 patients for bacillary dysentery with chloramphenicol are reported by a research group from Washington, D. C.

"Diarrhea usually subsided within three days, and an uneventful recovery ensued in all 35 patients," Drs. Sidney Ross, Frederic G. Burke, E. Clarence Rice and John A. Washington, and Sara Stevens, B. S., all of the Research Foundation, Children's Hospital, say in the August 26 Journal of the American Medical Association.

Although sulfadiazine also is effective against the disease, its usefulness is limited, they point out. Causative microbes frequently become resistant to sulfa drugs, occasional patients are sensitive to sulfa compounds, and administering sulfadiazine to dehydrated patients in the tropical areas where the disease is most prevalent may be hazardous.

Mass case finding in hospitals can be effective if applied to two groups—admissions and personnel. It is known that our medical and nursing personnel are only too often exposed to active cases of unknown tuberculosis. This is especially hazardous in the general hospital since the prophylactic nursing techniques usually fall short of those required in a communicable disease institution. The incidence of tuberculosis among doctors and nurses is already several times that of comparable age groups in the general populations, and they should not be needlessly exposed when the method of detection is so readily available. Hospital Council of Greater New York and New York Tuberc. & Health A.—1950.

With the minimal case of tuberculosis, diagnosis is rarely the clear-cut matter it is in more active, progressive, and advanced cases. It may involve, frequently, the most tedious follow-up and most painstaking analysis and evaluation. These are the lesions, which under normal circumstances, rarely get the doctor's care because of their obscurity and elusiveness—those which may be forever the "silent" lesions in tuberculosis. Robert J. Anderson, M.D., Journal-Lancet, April, 1950.

Every community is entitled to safe water, food, and milk, and protection from unsafe disposal of wastes; to as safe an environment as we know how to provide including pure air; safe streets, homes, places of work, and places of education and recreation; to the best protection we know how to provide from the contagious diseases, including tuberculosis and the venereal diseases; access to good medical care and hospitalization when needed; to the best protection we know how to provide against the special hazards of maternity and infancy; to the best facilities we know how to provide for the healthy development of our children, including correction of crippling physical and mental defects; recognition and treatment of rheumatic fever and other heart disease, and to the knowledge and facilities necessary to prevent as many deaths as possible from cancer, heart disease, diabetes, and the other degenerative diseases. William P. Shepard, M.D., Nat. Tuberc. A. Bull., Oct., 1949.